NORTH-HOLLAND

Lessons From East Asia

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1. INTRODUCTION

The crisis that began in Thailand in July 1997 has grown now to the point where it represents perhaps the most significant economic event since the Great Depression. Not only has unemployment and poverty in the region soared and output plummeted, but global growth has been seriously affected. Indeed, by some calculations, even assuming a relatively rapid return of the global economy to sustained growth, the total loss of output, relative to the previous trend path, is in the hundreds of billions of dollars.

Pundits have drawn the new lessons from the crisis: (a) improve your financial institutions, (b) improve corporate governance, and (c) improve transparency.

And they have used the occasion of the crisis to reinforce old lessons: (a) do not run large current account deficits, and (b) do not have an overvalued exchange rate.

At the same time, they have admitted that some of the key lessons of earlier crises are not applicable: Unlike the Latin American crisis, inflation was low, government deficits were low, and savings rates were high. The crisis was a crisis of private sector indebtedness, not public indebtedness.

These are good lessons, and countries would be well advised to heed them. Doing so will reduce the chance of a crisis, making a country less vulnerable, and perhaps reducing the magnitude of the downturn should a crisis occur. However, I do not think these

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are the main lessons that should be drawn from the East Asia crisis: following these precepts will surely not inoculate a country against a future crisis. To be sure, by definition, one will not have a financial sector crisis if one has a strong financial system—that is a tautology. The question is, what does it take to have a strong financial system?

To be sure, with sufficient transparency, investors will not put their money into a country that is on the brink of a crisis, and the withdrawal of money will thus not pose a problem. But it may be important to recall that the last set of major crises occurred in Scandinavia, perhaps the set of countries with the most transparent institutions. And most of the relevant information—including the information about the degrees of transparency and the problems in the corporate and financial sector—was not only available, but widely discussed prior to the crisis. Western banks were lending to these countries, despite excessively high leverage in many firms. The experiences of Scandinavia well demonstrates that misguided investment need not be blamed in crony capitalism—even if crony capitalism in East Asia might have exacerbated the underlying problems. Indeed, real estate bubbles, a central feature of the crisis in several of the East Asian economies, have been ubiquitous throughout the world. While weak (and badly regulated) financial institutions are both cause and consequence, one hardly needs to examine special features of the Asian economy to account for these bubbles, their eventual bursting, and the disruption that results.

I shall argue in this lecture that while there is an important set of lessons to be learned from the crisis, the lessons are somewhat different from those being put forward by much of the popular press and many politicians in the more advance countries. The lessons I would emphasize are these:

1. Rapid financial and capital account liberalization—without the commensurate strengthening of regulatory institutions and safety nets—exposes countries to high levels of risk that they are ill-prepared to absorb. The benefits of the liberalization, especially in countries with high savings rate, are limited, and further qualified by the costs of the disruptions that they are likely to experience. While capital account liberalization, through diversification, is supposed to facilitate growth at the same time that it reduces risk, in practice it seems to be

associated with higher levels of risk without commensurate increases in growth or investment.
2. The international financial architecture has some fundamental weaknesses, as evidenced by the increasingly frequent and severe crises, which need to be addressed by the international community.
3. Among the reforms that are most needed are those that would stabilize short-term capital flows and more effectively and quickly address systemic bankruptcy. They also need to strengthen their safety nets and try to reduce the vulnerability of their economy, including the strengthening of automatic stabilizers.
4. Countries need to seek a congruence between the risks to which they expose themselves, the safety nets that they have provided for their most vulnerable, the automatic stabilizers that they have put into place within their economies, and the policy responses to crises when they occur.

In addition, I would argue that the crisis also serves to remind us of *old* lessons—too easily forgotten:

1. Capitalist economies, without a strong government role, are prone to marked fluctuations and frequent crises.
2. Before the advent of strong financial regulation and deposit insurance, financial crises were frequent and led to severe economic downturns. Such crises were often associated with high leverage and/or real estate bubbles.
3. Without government intervention to restore the economy to full employment, economic downturns can be unnecessarily deep and prolonged.

2. WHY DID PEOPLE MISS THE CRISIS?

In the aftermath of any major event—and the Asian crisis qualifies as a major event—journalists and politicians inevitably search for explanations and interpretations. Their quest is understandable: they wish to identify some salient aspect of the economy that is awry. Ideally, they would like to draw some lesson that reinforces previously held viewpoints. Citizens and readers may want assurance that the calamity is not likely to touch them. The weaknesses that gave rise to the crisis are "foreign"—likely to befall those who, for one reason or the other, have not adhered to the rules of the game.

In the case of the East Asia crisis, the explanations may serve another purpose: Western lenders have a strong incentive to shift the blame—they, after all, diligently ascertained the creditworthiness of borrowers. How could they be expected to have done better, given the lack of transparency of the borrowers? Never mind that the lack of transparency was widely noted beforehand, and that, if anything, the countries were becoming more transparent! (Furman and Stiglitz, 1999.)

Those who pushed forward the agenda of capital and financial market liberalization have still further motives in shifting blame. They clearly do not want to assume any of the blame for the crisis. There had been an active debate both within government and academia concerning precisely these issues. There were many, for instance, who worried that pushing the Koreans towards faster financial and capital account liberalization, before the associated regulatory mechanisms had been developed and before the high debt equity ratios could be reduced, was inviting precisely the kind of calamity that occurred. Critics that might well have said "I told you so," and taken a critical position untouched by "Monday morning quarterbacking" have been surprisingly silent on these matters, focusing instead on how to best proceed from here.

But while there is a natural quest for easy explanations, the burden on economists is heavier: as instructive as anecdotes may be, far more is required to explain the recent chain of events. If the errors in management of these countries were so obvious, the crisis should have been predicted. After all, many of the commonly cited variables, such as Thailand's trade deficit, were widely noted before the crisis. If one remembers the days before the crisis, however, it is clear that it was not expected. Credit ratings were favorable; risk spreads were falling; and few economists were sounding any serious alarms. Note that credit ratings and risk spreads represent summary statistics—overall judgments of analysts and the market. They represent the aggregation of the plusses and minuses that inevitably characterize any country. It does little good, after the fact, to cite some negative that was recognized, perhaps in a footnote, and respond "I told you so! Had you only read my footnotes carefully, you would not have invested there." Every nation's economy has problems, and if one only invested in countries in which there were no "warnings," no risks, and no negative footnotes, one would invest in few if any emerging markets.

Perhaps more striking is the fact that even after the crisis had begun—and attention had begun to focus on potential weaknesses in the region—there was still little anticipation of the impending disaster. In September 1997, almost all knowledgeable opinion held that Indonesia had been unfairly contaminated by Thailand, and that its quick policy response had successfully staved off the crisis. As late as December 1997 the Consensus Forecast for Indonesia still expected a positive 6.1% growth. It was not just that people did not expect the crisis to occur; even after the East Asia crisis attracted the attention and concentration of investors, they consistently underestimated its scope and severity.

After the crisis initially began, there was still a general sense of confidence in East Asia, a belief that the downturn would be short and shallow. To be sure, there were good reasons for this confidence—the East Asia miracle was real. Not only had GDP increased enormously in the region, but poverty had also been dramatically reduced, literacy increased, and health improved. Overall, poverty rates for East Asia fell from roughly 60% in 1975 to roughly 20% in 1997.[1]

Although it is fashionable today to say these countries were vulnerable, it should be remembered that for 30 years they had demonstrated not only higher growth rates than elsewhere in the world, but less vulnerability: two of the East Asian countries had no years of negative growth, and two had only 1 year—a far better record than any of the OECD countries. If they were vulnerable, it was a newly acquired vulnerability, suggesting that one should look to changes in policy (such as recently adopted policies of financial and capital market liberalization) as the source of vulnerability.

But vulnerability, if it is to mean anything, should mean that these countries had characteristics that increased the probability of a financial or currency crisis. That is a question that needs to be addressed by standard statistical techniques, not by the kinds of anecdotes that politicians, journalists, and a few economic pundits like. In a Brookings article, Jason Furman and I reran some of the leading crisis prediction models using data from 1996 in an effort to see if they would have predicted the crisis beginning in 1997. Looking at the plusses and minuses of each country, did the affected countries have a higher than average probability of a

[1] World Bank Statistical Information Management and Analysis (SIMA) database.

crisis? We found that although the models raised some warnings about countries like Brazil and Russia, they completely missed the crisis in East Asia—often assigning a lower-than-average probability of crisis for the key countries. (Our analysis included rerunning the leading model looking at crises in the financial sector.) According to these models, there were many more vulnerable countries; that is, if the countries of East Asia were vulnerable, so, too, are a host of other countries.

To put it more plainly, if a variable like "lack of transparency" is alleged to be a "cause" of a crisis, countries that have that characteristics should have crises, and those that do not should not. But many of the most transparent countries (like those in Scandinavia) have been among those strongly affected by crises in the last decade, and many of the least transparent countries have not had crises. There are several factors that might jointly "cause" a crisis, and that is precisely why one needs to use more sophisticated econometric techniques that can take into account multiple attributes. Yet even these multiple attribute models suggest that the countries of East Asia were not really highly vulnerable—at least not from an *ex ante* perspective. The standard macroeconomic and financial variables simply did not predict or add up to a crisis.

Knowing this should make us more forgiving of the domestic policies of crisis countries in the run up to the crisis. If the best economic models say that the macroeconomic policies were not heading towards a crisis, why should a Thai finance minister or Indonesian central bank governor have known better? It is hard to blame their policies when these policies—viewed in summary—did not seem wrong at the time. To be sure, Thailand had a current account deficit, which (surely in retrospect) did not appear sustainable. But it was being used to finance private investment, and the private investment was presumably yielding a return in excess of the interest rate that would have to be paid on it. If one believes in private markets, such a deficit should have been sustainable. If one had confidence in private market investment decisions, only if one believed that the investment was predicated on a bailout (i.e., that there were serious moral hazard problems) or otherwise entailed large government subsidies, should one have been worried.

There is yet another important implication of the East Asia crisis, especially critical as we consider reforming our international financial architecture: the fact that the East Asian countries were evidently vulnerable suggests that a wide range of countries are also vulnerable to possibly self-fulfilling crises. Those who believe that crises are always the result of bad fundamentals have not succeeded in identifying that set of fundamentals. And until they do, the presumption is and should be that crises can affect any or most countries.

Another one of the easy explanations for the crisis is that there was a loss of confidence. Some pundits and economists have begun to wander off into the realm of market psychology—a task for which they are eminently unqualified and in which their predictive powers seem eminently unimpressive. Repeatedly, they have asserted that some "package" or "action" would restore market confidence. And when it failed to do so, they produced a host of *ex post* explanations (reminiscent of Freudian psychologists of old, who could never be proven wrong): the country failed to faithfully execute their directives; some unanticipated (and presumably unanticipatable) event had occurred that had undermined the effects of the prescription. Too little attention was paid to the ranges in beliefs, access to information, and circumstances—and, therefore, different reactions—of the various participants in the market, from those on Wall Street to those in Jakarta.

In contrast to these largely unscientific and unsuccessful attempts to dabble into amateur market psychology, there has been serious research into formulating formal models, both of bubbles bursting (a central feature of the Thai experience) and of multiple equilibria. These models with self-fulfilling "crises" have drawn attention to the nature of the policy regime. The rules of the game determine whether multiple equilibria exist and affect the likelihood of a bubble occurring. The countries of East Asia had moved towards financial and capital liberalization over the last decade. This led to a large inflow of capital and the associated problems of real estate bubbles and exchange rate management. At the same time, the open capital account increased the possibility of a massive outflow of capital.

In our Brookings article, we took a closer look at what could macroeconomic policy have done better, given the financial policies, and concluded that even in retrospect, it is not obvious what the errors were. Different economists have come up with different answers to "what should have been done." For instance, there is little evidence of a serious overvaluation of most of the currencies, certainly not of Korea. There is some concern that had Thailand floated its currency, its exchange rate would have appreciated and reserves would have become smaller, making the eventual crash of the currency potentially even larger. Although some have suggested that Thailand should have reduced government spending, it already was running a fiscal surplus and its long-run problems were related to an underinvestment in human capital and infrastructure. Should they have allowed the private sectors' seeming desire to build empty office buildings crowd out needed public investment?

We know that bad public macropolicies can lead to crises. One of the lessons of the East Asia crisis is that the private sector can also make bad investments. Markets throughout the world—from the inception of capitalism—have been characterized by bubbles. There is such emphasis on financial sector regulation precisely because unregulated financial markets and financial panics have played such an important role in the volatility of capitalism. This is nothing new. The recent government intervention in the United States in the case of Long-Term Capital Management (LTCM) demonstrates that even today, even with all the warnings that have been sounded about excessive leverage, seemingly well-regulated American banks have lent to a firm engaged in nontransparent transactions, resulting in higher leverage than evidenced anywhere in Korea. It is, thus, alleged that a single firm was in a position, through its immense bank leverage, to give rise to systemic risks for the global economy.

The econometric analysis provides one further lesson: the one new variable that appears consistently important in explaining which countries experienced a crisis is the ratio of short-term debt to reserves. This variable was omitted from earlier analyses, partly because it is hard to justify. Theoretically, after all, in a country with convertible currency, domestic assets can be converted easily into foreign currency. The multiple equilibria models provide a possible rationale: if all investors come to believe that this is an important variable (or that others believe that it is an important variable), such that when that ratio exceeds a critical threshold, there will be a currency run on the country, then there will be a crisis when that variable exceeds that threshold.

For whatever reason, countries in which that variable is high have faced an increased probability of a crisis. This, in turn, has strong implications for capital account liberalization. Consider a poor country in which the ratio of short-term, foreign-denominated liabilities to reserves is currently at the threshold (unity), and assume that a firm within that country borrows $100 million from an American bank paying 18% interest. The government of that poor country must then increase its reserves by $100 million, buying US treasury bills at 4% interest. In effect, that country is borrowing at 18% and lending at 4%. It is difficult to fathom how that is a growth-enhancing strategy—though it is easy to see why the United States might find such a deal attractive.

There is a final and important lesson that emerges from this discussion: the need for robust systems, designed to take account of human fallibility and institutional imperfections. Nuclear power plants and airplanes have redundant safety systems. If one part fails, the system will still works because there are additional back-ups. The system is designed, moreover, to survive the lapse of attention on the part of one engineer. Should not our international financial architecture exhibit a similar degree of robustness?

If there were a single accident on a road, it is reasonable to blame the driver. If, however, there are dozens of accidents at the same curve in the road, one should at least ask whether the road needs to be redesigned. To carry the automobile metaphor one step forward: in designing a car, before we put in a high powered engine, we need to know that there are both good tires and a good driver. Opening up capital markets was a potentially high powered engine (though in practice it did not prove to be the case). And at the time capital markets were liberalized, the tires (the regulatory systems) were far from up to the task of holding to the road underneath the high power engine, and macro-management was evidently not up to the task of navigating the sharp curves.

3. MITIGATING THE SEVERITY OF THE CRISIS

No matter how hard we try to avoid crises, there will be crises. No country has avoided all real estate booms, although good policies can reduce their frequency. What can good policies do to reduce the magnitude of the downturn?

First, governments should work to put into place automatic stabilizers. In more developed countries, tax and welfare programs act as automatic stabilizers; in many LDCs, automatic stabilizers are weak or absent. Indeed, the structure of the East Asian countries had features that led to instability: the high leverage meant, for instance, that increased interests rate, even for short periods, had large adverse effects on net worth. And as net worth eroded, there would be a large contraction in economic activity and an increasing incidence of bankruptcy. The feedback between the real and financial sector served to exacerbate the impact of shocks.

Second, the way in which financial policies are typically implemented contributes to instability. Consider what happens if capital adequacy standards are rigidly enforced. Assume that when a crisis hits, a country is at its limit. Then, as defaults rise and bank net worth declines, either new capital sources have to be found or lending must decrease. But the midst of crisis is hardly an ideal time for raising new capital, and as a result, lending typically contracts. This naturally further weakens the economy, leading to more bankruptcies, and lower net worth, and perhaps an even greater shortfall in capital adequacy. This dramatically emphasizes the difference between *systemic* policies and policies affecting an individual institution, a point to which I shall return later in the context of bankruptcy. Rigorous enforcement of capital adequacy standards in the case of an isolated bank facing troubles is markedly different from the rigorous enforcement of those standards in the case of a systemic crisis. (More generally, it can be shown that optimal regulation of banks should not entail excessive reliance on capital adequacy standards) (Hellman, Murdock, and Stiglitz, 1998).

Third, the strategy for dealing with financial restructuring has to be designed to mitigate, not exacerbate the economic crisis. A key goal here must be the maintenance of credit flows. Typically, as an economy faces a crisis, credit flows are impeded. There can exist a bankruptcy chain: a bankruptcy of one firm will have adverse effects on suppliers and customers. As firms worry about the probability of bankruptcy of suppliers and customers, they curtail the availability of normal trade credit. Similarly, banks facing declining net worth and worsening prospects reduce the flow of credit. These normal reactions in an economic downturn are obviously exacerbated in financial crises. Weak banks—banks that fail to meet the basic capital adequacy standards and are on the verge of insolvency (or beyond)—often need to be restructured. But this can be done in better ways or worse ways. In particular, they can be done in ways that impede the already limited flow of credit. The way financial restructuring was conducted in the cases of United States in the S & L crisis, and recently in Indonesia, provide examples of such success and failure, respectively. In the United States relatively few banks were closed down, and most were merged with stronger ones—typically over a weekend so that customers of the bank barely noticed the change in management. In Indonesia, by contrast, 16 private banks were closed down, there were intimations that still more weak banks might be shut down, and depositors were put on notice that they were at risk. The resulting run on the remaining private banks was no surprise, especially as there were safer alternatives: state banks (which many believed had the government's implicit guarantee) and foreign banks (which many believed were sounder). But even if these safe havens had not been available, depositors could, as a result of the open capital account, have taken out their money and put it into foreign banks (thereby avoiding at the same time the downside risk of devaluation). As private banks, thus, were weakened, the supply of credit was further curtailed, contributing to the downward spiral of the economy. (Furthermore, governments need to realize that financial crises may alter key parameters in the standard reduced form relationships, so traditional indicators may be misleading guides to policy. For instance, credit availability may be reduced, even as interest rates fall.)

Fourth, governments must recognize that even countries with the most advanced institutional structures have had a hard time creating the regulatory environment that insulates them against the full impact of such shocks. Less developed countries have less capacity—and the very process of financial market liberalization has weakened that capacity at precisely the time that is needed to be strengthened, as government regulatory agencies found it impossible to compete against the booming private sector in retaining highly trained individuals. Moreover, less developed countries face greater risks (partly because their economies are smaller and, therefore, less diversified). And derivatives have made a task all the more difficult, with even the best regulators finding it a daunting challenge—as the Long-Term Capital Management debacle this year made so painfully clear.

Fifth, governments should complement automatic stabilizers with discretionary countercyclical policies, actively seeking to avoid or at least reduce the magnitude of the economic downturns that almost inevitably follow upon financial crises. In doing so, government needs to invoke all the basic lessons of modern macromanagement:

1. Policies need to take account of the fact that there are lags, and thus must be based on the forecasts of where the economy will be in 6 or 9 months time. It simply will not do to base current policy on the current state of the economy,

when there is overwhelming evidence that the economy is about to go into a major economic downturn. East Asia illustrates this point clearly: the economies were initially in rough economic balance (as evidenced, for instance, by the absence of strong inflationary pressures); the major downturns of the stock market and the currency, combined with the bursting of the real estate boom in Thailand and the rising tide of bankruptcy in Korea, provided strong evidence of a likely deficiency in domestic aggregate demand. Additionally, the typically long lags in the export growth might have suggested that the growth of exports would be incapable of quickly filling the gap. Anyone attuned to the lessons of modern finance—to the strong adverse impacts of financial crises on the availability of credit—might have predicted an even greater reduction in domestic demand and the possibility of exports growth being impaired by supply limitations.

2. Although good macropolicy constantly makes adjustment midstream, as new information about the present state *and* the future prospects of the economy becomes available, it simply will not do to say (as I have heard more than once) that if a downturn does materialize, we will at that point advocate less contractionary policies. By then it is too late, and it will take months to fully reverse course.
3. Sound macropolicy must take into account the nonlinearities and irreversibilities: large economic downturns lead to massive bankruptcies, with a huge loss of informational and organizational capital. Restarting an economy after such a severe downturn is not easy.
4. Sound macropolicy must taken into account the risks—not only who bears the risks, but their asymmetries: I have already noted the difficulty of reversing a severe downturn. For an economy with a history of low inflation, even a moderate bout of inflation can be easy to contain and reverse. By contrast, the disruption caused by a deep recession can leave lasting scars—not just in the form of organizational capital, but in the form of malnutrition and interrupted education among the very poor.
5. Advocates of contractionary policies argue that contraction (or at least the high interest rates and expenditure cuts that lead to it) is necessary for the restoration of confidence. Though this is more a matter for a market psychologist than

> for an economist (Krugman, 1998), and there is little empirical evidence to support that hypothesis—I remain convinced that it is very hard to restore confidence in an economy that is going into a deeper recession or depression (bearing in mind the reaction of investors both outside and inside the country). Worse still, because there is strong evidence that economic weakness gives rise to political and social instability, these instabilities reinforce the weakening of confidence in the economy.

At the very least, those who advocate these contractionary policies have a heavy burden: not only do they need to establish that these policies are likely to succeed in restoring "confidence in the economy," but that there are not better ways—less painful ways—especially less painful to the innocent bystanders.

There is a curious logic in these contractionary policies: economic management is intended to maintain full employment and growth. To argue for contractionary policies—for a recession or depression today—one implicitly must argue that but for these policies, there would be an even worse economic future, a still worse recession or a prolonged period of much slower growth. Consider East Asia. Assume firms there had been encouraged to make full use of the bankruptcy laws (and, if the countries did not have laws with a good "Chapter 11," they had quickly passed such laws). The consequence would have been to put into place an effective standstill on debt (which remember, was private)—far preferable to what has happened so often, the nationalization of private liabilities. The *worst* that might have happened is that these companies would have a hard time accessing foreign capital in the immediately ensuing years (although the experience is that after an orderly bankruptcy, firms do regain access to capital markets rather quickly). But with savings rates in excess of 30%, and with marginal returns in investment already relatively low, even this might have had a negligible effect on their growth—certainly the deep recessions and depressions might have been avoided. And in any case, firms in deep economic recessions or depressions typically do not have access to outside capital!

This brings me to the fifth major part of a strategy to mitigate the downturn: putting into place an effective bankruptcy law designed explicitly to deal with systemic bankruptcies arising out of large macroeconomic disturbances such as those associated with large devaluations and huge increases in interest rates. Let me say a word about bankruptcy, an institution that, until recently, has received too little attention (though its profound implications for economic theory has long been recognized). (See, for instance, Stiglitz, 1969, and Stiglitz, 1972). I have argued elsewhere that a keystone in the development of modern capitalism has been limited liability and bankruptcy laws. (Greenwald and Stiglitz, 1992). Modern bankruptcy laws attempt to balance sometimes conflicting considerations: promoting orderly workouts so that business values can be retained and production losses can be kept to a minimum, and providing appropriate incentives so that those engaged in risky behavior bear the consequences of their action. Incentive issues arise at a number of junctures: before the loan has been entered into; after the loan has been made but before bankruptcy appears imminent; before bankruptcy occurs but after it appears that there is a significant chance of default; and after bankruptcy actually occurs. Different bankruptcy rules have different effects at each of these stages.

Discussions of bankruptcy often center on equity: on the "rights" of debtors and creditors. Although equity considerations are important, so long as the rules are clearly specified, the terms of the contract will reflect these differences in rules. For instance, a rule that gave debtors more rights after bankruptcy would typically be associated with higher interest rates at the time the loan was made. There are, of course, both efficiency and distributional considerations: the higher interest rates may, for instance, disadvantage good borrowers. (While going forward, it is important to have clarity about bankruptcy rules, there are difficult problems concerning how to deal with the current situation. Here, issues of equity are paramount: there needs to be a sense of fairness in burden sharing. I would argue that the central concern at this juncture, however, should be the restoration of the economy, which includes designing rules with the appropriate forward-looking incentives. The long-run incentive and equity issues need to be addressed within the context of the redesign of the underlying bankruptcy law.) In the international context, the flight of capital or withdrawal of short-term debt does not remove any of the actual factories. (Except in extreme situations—such as now seem to be occurring in some of the East Asia countries, where not only is there asset stripping, but the assets are being shipped abroad. Some of the so-called revival of exports is little more than a shipment of the productive assets of the country abroad—hardly a victory for economic recovery!) The goal should be to ensure that these productive assets continue to produce and that the assets are not stripped away.

Systemic bankruptcy law needs to be distinguished from the bankruptcy laws prevailing in most countries, which are intended to address the failure of isolated firms. There are several salient differences:

1. The inferences we can make about the quality of management when all firms face bankruptcy are markedly differ from the inferences which can be drawn when a single firm faces bankruptcy: there is a stronger presumption that an event that even a "reasonably good manager" could not have anticipated has occurred.
2. Even ascertaining the net worth of a firm becomes difficult when there is systemic bankruptcy, because many of the assets of a corporation are claims on other firms that are themselves bankrupt. Ascertaining the net worth of any firm thus entails solving a complex, simultaneous equation problem.
3. The resources required to work out an isolated bankruptcy are huge, and there are many critics of present U.S. practices who question whether the benefits are worth the costs. But how can a poor country, with 50 to 75 percent of its firms in bankruptcy, afford these costs? To put it another way, there are simply not enough bankruptcy specialists within the countries (and perhaps in the world at large).
4. Most importantly, bankruptcy proceedings are often prolonged, and while there are significant costs to the delays (which themselves may be a manifestation of one of the inefficiencies that often arise out of bargaining problems with imperfect information) (Farrell, 1987) under systemic bankruptcy, the social costs are systemic, and may significantly exceed the private costs: the macroeconomic consequences of delay are simply too great to bear. Although delaying the resolution of an isolated bankruptcy has no serious macroeconomic effects, delays in the resolution of bankruptcies affecting a significant fraction of the firms within the economy have marked aggregate consequences.
5. There is not a single Pareto-efficient set of bankruptcy rules, as some of those pushing bankruptcy laws on less developed countries seem to suggest. There are fundamental trade-offs in the design of bankruptcy laws, a point made evident by the heated debate over reform of the bankruptcy laws in the

> United States during the past year. In short, the task of the economic adviser is not to tell the country which bankruptcy law to have, to give it a single "prescription," but to lay out clearly the consequences of alternative models. I worry that some of the advice now being proffered falls far short of this ideal.

The systemic nature of bankruptcy laws in the crisis countries calls for reforms in bankruptcy law—such as a speedy "super Chapter 11" in which the presumption is that existing management would remain in place, a financial plan would be presented that would restructure the liabilities (e.g., forced debt to equity swaps, with foreign debts valued at a rate, say, the higher of the current rate and 30% below the average rate prevailing over the preceding 6 months) with existing management/shareholders able to retain sufficient equity interests to provide them with adequate incentives. These "default options" would provide the backdrop for a speedy resolution of the debtor–creditor bargaining problem. To be sure, this proposal (one of many that could be discussed) is one that puts a higher premium on debtor rights compared to those that creditor committees might propose. Critics would say that this will be have dire consequences for the flow of capital; it will force borrowers to pay higher interest rates. But that is precisely the point: currently, borrowers are not paying the full costs of the risks that their (collective) actions impose on society. This bankruptcy law would put the two in closer alignment. (Moreover, in some models with multiple equilibrium, these new rules might, in fact, result in the elimination of the bad equilibrium—the equilibrium with a low exchange rate. Knowing that the losses of debtors are limited under the new bankruptcy code, the exchange rate is not "forced" to the lower level at which bankruptcy occurs. In these models, changing the rules in the way proposed might result in the rules themselves never having to be brought into play.)

Finally, the cornerstone of any policy attempting to mitigate the severity of a financial crisis arising from the volatility of short-term capital flows must attempt to address the fundamental market failures associated with that volatility: the fact that some of the costs (risks) associated with those capital flows are borne by innocent bystanders—the workers and small businessmen who are crushed either by the direct impact of the volatility or, more commonly, by the extreme macropolicies that are pursued in an attempt to moderate crisis effects on exchange rates. While I have written extensively elsewhere on those policies, (Stiglitz, 1998a, 1998b), let me here make but three observations.

1. Such policies need to be comprehensive: they need to include not only the elimination of those distortions that have, in the past, encouraged short-term capital flows, but also policies that ensure that banks and financial institutions do not undertake excessive exposure. But while good financial market regulation can go a long way, that is not sufficient: corporations themselves may engage in excessive borrowing in foreign denominations, as the experience in Indonesia where two-thirds of the borrowing was undertaken by corporations, has brought home forcefully. (To be sure, Malaysia shows that tight regulation of banks—requiring them to look at the exposure of the firms to which they lend, can put a significant damper on corporate foreign borrowing.)
2. Such policies can work, as the experience of Chile has demonstrated, where a policy that might be interpreted as a tax on short-term, foreign-denominated debt has succeeded in lengthening the maturity structure of the foreign debate with little discernible impact on overall capital flows. Other proposals also look promising, such as those limiting the deductibility from the corporate income tax of short-term foreign denominated debt.[2]
3. Such interventions can be thought of as dams, dams that do not stop, but only temper the flow of water from the top of a mountain down to the sea. Without the dam, there are floods that bring with them death and property destruction. By contrast, with the dam, not only is the death and destruction reduced, but the water itself can be channeled into more constructive uses.

Critics of such interventions have argued that such interventions will impede the flow of capital and represent an interference with the free workings of the market. Again, let me repeat: there is a market failure; these flows give rise to systemic risks that have large impacts reaching far beyond those directly involved in the

[2] There are some significant administrative advantages with this proposal. Any proposal has to worry about two key issues: the use of derivatives to circumvent the regulations, and the movement of borrowing offshore. These problems can be addressed, at least in ways in which the foreign denominated indebtedness imposes less of a threat on the country's own macroeconomic stability.

financial transaction. It is intellectually incoherent to argue that there is a need for bail outs (or more broadly, that a government should take actions that have such adverse macroeconomic effects on its economy), and at the same time maintain that one should not do something to address the underlying problems that give rise to these problems. If there is contagion and systemic risks, there are externalities. It is no more justifiable to complain about the adverse effects of such interventions in dampening capital flows than it would be for a steel producer to complain that a tax on its air pollution induces it to produce less steel. In both cases, those engaging in socially costly activities are being asked to bear more fully the social costs of their actions.

4. MITIGATING THE CONSEQUENCES

No matter how effective we are in reducing the frequency of crises or in designing policies that mitigate adverse macroeconomic consequences, such crashes will occur and will lead to economic downturns. A major lesson is that we must put into place safety nets, institutional arrangements that help the most vulnerable within society absorb these shocks.

This will be difficult for many less developed countries. Even in more developed countries, the agricultural and informal service sectors are often inadequately covered by unemployment insurance. These sectors of the economy loom large in many LDCs. We need to recognize the "limbo" stage in which many LDCs find themselves: they have trod sufficiently far down the transition road into a modern economy that many of the traditional informal safety nets—provided by families and villages—have weakened, but they have not yet gone far enough down the development path that they have been replaced by adequate formal institutions.

For most LDCs, there is simply no safety net that can substitute for economic policies that maintain the economy at full employment.

5. CONCLUDING REMARKS

It is a much quoted adage that those who do not understand the past are doomed to repeat it. I do think a dispassionate look at East Asia is imperative. In doing this, we have to avoid two dangers. The first is the journalistic anecdotes to which I referred earlier—looking for easy explanations, particularly explanations that provide us comfort that the calamity was brought on by some mistake of those upon whom the disaster has fallen, leaving the rest of us in more virtuous countries relatively immune. Certainly, the contagion that spread around the world in the aftermath of the Russian crisis has eroded much of the comfort for those who believed that following "good" polices would protect them against the ravages of short-term capital market volatility. Secondly, we cannot rely on our 20/20 hindsight. We need to take seriously what people knew and expected to happen at the time. Moreover, we need to look carefully at the explanations offered up by various participants in the market: each has an incentive to provide explanation that serve their own interests—from shifting blame, to assuring others that the basic framework that has been at the center of policy is appropriate.

If there are four central lessons that I draw, they are these: first, hasty and poorly designed financial and capital market liberalization played a central role in these crises, a far more important role that the host of other commonly cited factors. Second, there are important reforms in the global financial architecture—including reforms in the bankruptcy laws and attempts to stabilize the highly volatile flows of short-term capital—which are essential if the advantages of globalization are to be achieved without imposing undue risks. Third, economic models that fail to integrate modern financial economics into an analysis of the real sector simply will not do. Too much of the analysis in the recent crisis focused on financial variables—victory was declared when exchange rates were stabilized, even as the economies were plunging into deep recession. Attention needs to be placed on the social, structural, and human dimensions, on the implications of the policies for unemployment, bankruptcy, the flow of credit, as well as for the overall strength of the economy.

Fourth, and most importantly, there needs to be greater congruence between the exposure to risks, the ability to bear risks, and the policy responses. Small countries are like small boats on a rough sea. Even with a well-steered, sturdy boat, they are eventually likely to be hit broad side by a big wave. Knowing this, they should have a good set of safety vests, and they should take great care when venturing into dangerous shoals. The less-developed countries, even before they had fully mastered the techniques of steering and before all the holes in the boat were fully plugged, were reconfigured to make them more sleek, but less stable, and encouraged to set out into some of the stormiest seas and worst conditions possible—and no time was given to make sure that everyone had a safety vest. The results were predictable. Let us take to heart these lessons.

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