
Responding to Liquidity Shortages

The question of mobilizing a large IMF loan to supply foreign currency to a crisis country is the most controversial issue in crisis resolution. Critics say large bailouts do little more than insulate countries from the consequences of their policy mistakes and investors from their bad investment decisions. Proponents say that large rescue packages have saved countries with only temporary problems the pain of an avoidable default and prevented cascading crises like the one in Argentina. Successful rescues limit contagion and even spur better policies in many emerging markets.

Unless a country acts with unusual foresight and seeks help early on, the alternative to a large rescue package is usually a temporary halt in payments. The standstill can be on payments of government debt, on interbank payments, on depositors' ability to take funds out of the banks, on domestic and international investors' ability to convert domestic currency into foreign currency (capital and exchange controls), or a combination of some or all of them. Also, a narrow standstill could risk triggering runs elsewhere, leading the country to eventually impose a broader standstill that includes most debt payments, withdrawals from the banking system, and currency convertibility.

Chapters 3, 4, and 5 touched on the core debate between mobilizing a rescue loan and imposing a standstill. However, the debate is far from settled, either in theory or in practice. This chapter therefore tries to synthesize the insights from various models with lessons from recent experience to broadly assess the options for responding to crises marked in part by a liquidity shortage.

A liquidity shortage can arise in a range of contexts. Some countries that run low on reserves have little overall debt, correctable problems, and

strong prospects for regaining market access if their short-run liquidity needs are addressed. Other countries that run low on reserves have economic problems that are more difficult to fix, yet the country may not be insolvent if it can implement needed policy changes—and avoid the economic shock that usually accompanies default. Finally, a scramble to secure the country's remaining liquidity is also a problem in a country close to insolvency: It makes the unavoidable restructuring more costly. Since liquidity shortages arise in a broad range of circumstances, a core argument of this chapter is that different solutions may be needed for different "liquidity" problems.

This chapter has three sections. The first examines the debate on whether to mobilize a large official loan to meet a surge in demand for foreign currency, whether to impose a standstill on payments, or whether to combine a partial standstill and a rescue loan. It pays particular attention to the difficulties that arise in a world where the amount of emergency official liquidity is too small to cover all potential sources of demand for liquidity. While the theoretical debate generally has focused on assessing the choice between a lender of last resort (a full bailout) and a complete standstill on all payments (a full bail-in), most real-world cases require choosing among a partial bailout, a partial bail-in, or some combination of a bailout and a bail-in.

The second section looks at the complexities created when the financial difficulties of private borrowers, not those of the government, lead to pressure on the country's reserves. In addition to discussing the complexities associated with banking and corporate crises, this section discusses the pros and cons of exchange and capital controls.

The third section turns to proposals to find an alternative to both official rescue loans and standstills. This section begins with a discussion of possible private-sector substitutes for IMF lending, whether private lenders of last resort, contingent credit lines, or voluntary debt swaps. It then examines calls to use public guarantees or other "enhancements" to induce private emergency financing. The chapter concludes with proposals to "contractualize" standstills by writing rollover options into debt contracts and with proposals to replace official loans to crisis countries with official intervention to support the secondary market value of emerging economies' bonds.

When Is Official Liquidity Support Warranted?

Choosing Between Official Financing, Payments Standstill, and Consensual Rescheduling of Maturing Claims

A country facing a sudden surge in foreign-currency payments that exceeds its own reserves has three broad choices: It can seek a large official

loan to meet the surge in demand, it can suspend payments and break its contractual promise to pay on time and in full, or it can convince its creditors not to demand payment immediately.

If the crisis is truly acute, drawing down reserves or adjusting policies to reduce financing needs may not be viable options. Reserves may be exhausted, and a depreciated exchange rate or fiscal tightening may not generate the needed foreign currency in the short time available. The official sector's basic choices mirror those of the crisis country: It can supply a large rescue loan, it can signal its approval of the country's decision to impose a standstill (usually by lending into arrears to that country), or it can help the country convince its creditors not to demand payment.

Theoreticians of sovereign debt crises have emphasized the analogy between a sovereign financial crisis and a bank run and have examined the choice between a lender of last resort and a standstill in responding to a "run." In a pure run on a solvent country, a large loan that guarantees payment to everyone is sufficient to stop the run. But a standstill on all payments that locks all creditors in has the same result: Once everyone is expected to be locked in, no one has any further incentive to run because, in the model, the only reason for the run in the first place was a fear that others might run first, not doubts about the country's solvency. These models therefore tend to support responding to liquidity crises with "corner-type" solutions—either a loan large enough to cover all short-term claims or a comprehensive standstill is preferable to a partial bailout.

However, the counterintuitive conclusion of these models—that creditors are equally happy with a standstill that forces all of them to maintain their exposure to the crisis country or with a lender of last resort that provides enough financing so that all creditors can get out if they want to—only holds in the absence of doubt about the country's long-term solvency. In most real crises, of course, creditors are jittery, feel that they lack perfect information, harbor doubts about the country's solvency, and would rather be bailed out—or allowed to exit—than be forced to stay in. Models that have examined how doubts about solvency can trigger a run on a country's liquidity have come to another conclusion. "Catalytic" financing—a bailout that is not large enough to assure that everyone can get out if they want to—can work, but only if the loan is made to a country whose policy problems are not too severe. In these models, the combination of access to additional official financing and policy changes can avoid a panic and a complete run. The additional money on the table allows the country's least committed creditors to leave without giving rise to fears among the country's remaining creditors that the country will run out of reserves before its policy reforms take hold.

These formal models—already discussed in detail in chapter 3—provide important insights into crises. They also necessarily paint a simplified picture of emerging-market crises. Most models imagine a world with one debtor, either the government or the country, that has a single set of exter-

nal creditors. In reality, an emerging economy is composed of multiple debtors—the sovereign government, the country’s banks and other financial institutions, and the country’s firms and households—all of which obtain financing from many different creditors, both at home and abroad. Moreover, anyone holding a local currency–denominated financial asset can put pressure on the country’s reserves or the exchange rate, should they opt to shift their savings from local financial assets to foreign assets.

In this messy and complex world, most realistic policy options will address only one of many potential sources of pressure on the country’s reserves. Even the biggest bailouts are not large enough to let all potential creditors and investors—including domestic residents who have invested their savings in the country’s banking system—to exit, particularly if everyone wants to exit at the same time. A rescue loan sufficient to cover all the sovereign’s maturing short-term debts, for example, works only if bailing out the sovereign—and indirectly its creditors—leads the country’s other creditors (those who lent to banks and firms) and investors (those holding local financial assets) to renew their loans and keep their savings in local assets. This is one reason why appropriate policy adjustments almost always need to accompany a rescue loan: Financial stability still hinges on convincing a range of creditors and investors that they want to continue to hold financial claims on the crisis country.

Similarly, most actual standstills are far messier than the stabilizing standstill postulated in many models, in part because the standstills assumed in models rarely cover all potential sources of pressure on the country’s reserves. No proposal to use a standstill to address a liquidity shortage should be considered complete unless it specifies which claims should be caught in the standstill, why a standstill on one set of claims won’t trigger a broader run on other claims, and what steps need to be taken to allow the standstill to be lifted. For example, a standstill that stops payments on the sovereign’s short-term debt works only if it does not trigger a broader run, whether by the banking system’s external or domestic creditors or simply by all those holding the local currency. This is one reason why a country facing payments difficulties is far better off if it can convince its creditors with maturing debts to agree to defer payments rather than just unilaterally announcing it has stopped payments. Announcing an agreement on a restructuring is less likely to trigger a broader run than announcing a unilateral payments moratorium. Yet a negotiated restructuring that averts default is not always possible: Almost every creditor would rather be the last to get out rather than the first to agree to defer payments.

This discussion on the resolution of liquidity shortages raises another important point: A crisis country’s exchange rate regime will shape both its choices in a crisis and the choices facing the official sector. After all, most emerging economies have few more important prices than the price at which domestic financial assets can be traded for—presumably—much safer foreign financial assets. In the absence of exchange controls, a fixed

exchange rate increases the scope of potential pressure on the country's reserves in a crisis: The government's promise to trade local currency for foreign currency at a fixed price turns all liquid, domestic-currency financial assets into a claim on the country's reserves. A domestic bank depositor, for example, can withdraw domestic currency from a bank and then convert it into foreign currency at a fixed rate. If the country runs out of reserves, it either has to break its promise to maintain a fixed exchange rate or impose a bank holiday or exchange controls that try to lock savings in the country.

If the country's currency floats—and if domestic debts are denominated in domestic currency—the country's central bank can always lend the government the local currency it needs to pay its debts and provide the local currency liquidity the banks need to avoid a bank holiday. But vast injections of local currency into the economy to settle maturing local currency-denominated debts also put tremendous pressure on the exchange rate. The government, in turn, usually intervenes to limit the exchange rate fall, putting pressure on the government's reserves. The core problem remains: If domestic residents—and external investors who have bought local financial assets—lose confidence and want to trade en masse their local financial assets for external assets, a financial crisis may be unavoidable.¹

Advantages of Rescue Loans

The pros and cons of large-scale financing and those of a standstill are in many ways mirror images. The core advantage of large-scale financing is that it avoids the cost associated with standstills. The core advantage of a standstill is that it avoids the distortions associated with large-scale official lending. It is therefore difficult to discuss one option in isolation.

The fundamental advantage of a large rescue loan is simple: It limits the risk that a payments standstill would transform a potentially temporary problem—the immediate shortage of liquidity—into a deeper, more permanent problem. The conceptual argument was discussed in chapter 3. The inability to honor contractual commitments has to be costly to create incentives for a country to make a real effort to pay its debt. However, if the country has the capacity to pay its debt over time and only faces a temporary shortage of liquidity, then bankruptcy costs are a problem. Penalizing a country for running out of reserves even if it has the long-term capacity to pay its debt in full (with policy adjustments) could leave both the country and its creditors worse off since the “costs of bankruptcy” themselves might be large enough to make it impossible for the country to pay its debt over time.

1. Still, liquidity runs are more severe under fixed rates than under flexible rates. Fixed exchange rates turn all short-term liquid assets denominated in the local currency into a potential claim on scarce reserves. But if the country's currency is floating, then only short-term foreign-currency debts are a direct claim on reserves.

The key risk of sovereign bankruptcy is not creditor litigation. As will be discussed in detail in chapter 8, the sheer difficulty of taking effective legal action against a sovereign usually provides the sovereign substantial protection from the risk of creditors being able to seize its remaining reserves or other assets. A sovereign government that runs out of reserves and has to restructure its foreign-currency debt—or a sovereign that cannot supply the domestic banks with the foreign currency they need to cover their maturing debts—faces a more immediate risk of the sovereign restructuring triggering a broader run and a cascading crisis of confidence. Depositors may start to pull their savings out of the banking system and transfer them abroad. Those holding local currency or a financial asset denominated in the local currency may rush to sell their local currency for foreign currency.

A rescue loan on a scale sufficient to allow a troubled government to pay its maturing foreign-currency debts not only avoids default on the specific debts that are causing the country's immediate payment problems but also can help convince a wide range of other investors with claims on the country not to run. For example, the financing that enabled Mexico to honor its short-term tesobonos increased the confidence of domestic depositors in the banking system and thus reduced the risk of a domestic bank run immediately resulting in a broader, deeper crisis.² A standstill on tesobono payments, in contrast, would have increased the risk of domestic Mexican bank depositors running, thus widening the crisis.

Official financing has a second advantage: The expectation that a rescue package, rather than a standstill, will meet the pressure on foreign exchange reserves can reduce the risk of runs developing in the first place. If creditors holding short-term claims anticipate that the country will impose a standstill, they may try to get out before the standstill is imposed—particularly if a standstill risks leading to a change in government or if there is uncertainty about the policies the country will adopt after it freezes payments. Economic theory indicates that anticipated payments suspensions—like anticipated capital controls—will accelerate the onset of pressure. Indeed, expectations of a standstill may actually trigger a run that would not have otherwise occurred. This argument should not be pushed too far—if a creditor holding a maturing claim believes the country's policies are unsustainable, then it will want to get out even in the absence of any expectations of a quick standstill. Still, interbank creditors to

2. During Mexico's crisis, the Bank of Mexico did make some dollar loans to domestic banks that needed to pay maturing dollar claims. However, domestic depositors by and large did not flee, even though the banking system incurred large losses as a result of the devaluation. Protecting bank depositors from losses required a costly government bailout. The fact that the government of Mexico was able to avoid default on its existing debt made its promise to honor the new debt it placed with the banks as part of the bank bailout more credible. Bank solvency crises are often much easier to resolve than a bank run, so long as the government itself is solvent and taxpayers can pay for the cost of the bank bailout over time.

Brazil probably ran faster than they otherwise would have because of memories of Korea and the capital controls in Malaysia and Russia. Argentina's bank depositors probably were jumpier than average in 2001 because of the country's history of resorting to deposit freezes in the 1980s.

Official financing has a third advantage. Policymakers have few incentives to improve their policies if they are sure that a run will push the country into default before any policy reforms yield dividends. Liquidity insurance that protects against the risk of a run thus increases the incentive to improve policies.³ One of the prime criticisms of official assistance is that countries may be more willing to run risky policies if they expect an official bailout. However, this argument is too simple: Once a country has got into trouble, official support may be needed for it to be willing to make a last ditch investment in good policies. For example, the liquidity assistance provided to Brazil in 2002 gave the newly elected government the hope that a run would not devastate the country before the new government had a chance to demonstrate its fiscal credibility and may have therefore contributed to the incentives for the new government to maintain large primary surpluses. Once a sovereign government decides it cannot avoid the costs associated with breaking its basic contractual commitment to pay on time, it may decide that there is little additional cost to failing to make a good faith effort to improve its policies and breaking the implied commitment to seek to repay in full at a later date.

Finally, official financing can reduce the risk of the crisis extending to other countries. Investors caught in a standstill have a strong incentive to reduce their exposure to other potentially risky countries. If other countries have not built up reserve stocks that protect them from such a risk, investor jitters following a crisis in one country could trigger self-fulfilling crises elsewhere. This contagion risk is correlated with the size of the initial crisis country. The larger the country, the greater the probability that a wide range of investors will have exposure to that country: Nothing leads to a broad reassessment of risks like actual losses. Moreover, a large country is far more likely to trigger investor losses on a scale that triggers disruptions in a range of financial markets. (See box 2.2 for a more detailed discussion of "wake-up call" and "common creditor" channels for contagion.)

Advantages of Standstills

The main argument in favor of payments standstills is that they avoid the distortions associated with official lending. In theory, official lending distorts the incentives of both the debtor, who may run riskier policies expecting official lending to protect it from a subsequent crisis, and its creditors. In practice, the risk of official lending distorting creditors' incentives is a greater concern. The debtor never really gets off the hook: Rescue loans

3. For a formal model, see Corsetti, Guimaraes, and Roubini (2003).

normally come with painful conditionality, the debtor has to pay its rescue loan back, and as discussed earlier, official financing can strengthen incentives for reforms when crisis conditions could otherwise have led policymakers to throw in the towel. Private creditors with short-term claims, in contrast, have the option of getting out without taking any losses if they do not renew their claims. Long-term creditors cannot get out on the back of official financing: They are locked in until the day the loan or bond matures. Of course, a successful IMF loan that helps a country through a short-term crisis is likely to increase the secondary-market value of long-term debt. Expectations of official lending could lead creditors, or at least those that lend for short terms, to lend too freely to countries with risky policies or with simply too much debt, thereby making crises more likely.

The risk of creditor moral hazard is mitigated in part by the fact that most rescue loans fail to provide anywhere near enough liquidity to protect even all short-term creditors from losses, as events in Thailand, Indonesia, Russia, and Argentina have demonstrated. The country may fail to deliver reform and thus fail to get all of the promised official financing. Or even if it delivers, the amount of official financing available may simply be insufficient to pay everyone in the event of a broad run.⁴

Some creditors with short-term debt (including creditors holding what were originally long-term claims that are close to maturity) may get out before the rescue fails, but creditors who cannot get out because they hold long-term debt or who bet wrong and opt not to get out may end up taking bigger losses. Senior IMF loans typically are repaid even after a country defaults, and the priority accorded to payments to the IMF and other senior creditors may imply larger losses for the country's remaining junior creditors (see chapter 7).

However, these qualifications do not alter the core reality: The surest way to eliminate all risks of moral hazard is to simply stop providing liquidity insurance to emerging economies and instead to rely on standstills to address a wide range of their financial difficulties.⁵ Emergency official lending can spare a country the pain of default only by providing enough financing to give some creditors with maturing debts the option of exiting. Some may not exercise that option and choose to renew their exposure, but others will likely opt to get out.

Ironically, the official sector's steps to limit the risk of moral hazard—delivering official support in tranches tied to policy reforms to control debtor moral hazard and limiting the overall amount of funds put on the

4. Apart from a few well-known moral hazard plays (Russia in 1997 and early 1998 and Turkey from 2001 on), there is little evidence that expectations of future bailouts systematically distort risk spreads or flows. See chapter 3 for a detailed discussion and references.

5. Creditors have many other reasons to prefer short-term lending that offers the prospect of getting out at par. Even without official lending, the country's own reserves provide short-term creditors with some degree of protection.

table—lead to a second critique of official lending: The partial bailouts needed to limit the risk of moral hazard simply don't work. Unless the official sector is prepared to throw caution to the wind and make sufficient upfront financing to assure that everyone who wants to get out can, a standstill may offer a more effective solution to liquidity problems. A domestic lender of last resort lends all that is needed to stop the run, while the IMF risks putting enough money on the table to allow some creditors to exit but not enough to stop the run. Since the chances of a partial bailout allowing the country to avoid some kind of standstill are slim, the country would be better off to simply impose a standstill early on, before running through an IMF loan.

This critique has a grain of truth: The amount of money that the official sector initially put on the table in both Uruguay and Korea failed to stop bank runs. Uruguay stopped its run only by getting a much bigger loan, and Korea did so only by convincing its creditors to postpone payment on maturing interbank loans. However, the criticism of official financing is too pessimistic. In the right conditions, official financing backed by policy reforms has catalyzed the voluntary rollover of private debts, stabilized the country's finances, and left the country in a position to repay the IMF relatively quickly. Mexico in 1995 and Brazil in 1999 are examples.

Finally, relying on payments freezes to address liquidity as well as solvency crises avoids the risk of the official sector diagnosing a country's problems incorrectly and will treat what is truly a permanent problem of insolvency (too much debt) as a temporary problem of illiquidity. Lending significant sums to a country that should have been declared insolvent from the start, or that cannot make the policy changes needed to assure its long-run solvency, has a range of costs. The fact that some creditors could get out using IMF funds weakens incentives for sound risk assessment—to the detriment of the international financial system. Backing a failed strategy damages the IMF's credibility, leaves it with lots of exposure to a country that is in no position to repay the IMF quickly, and may thus put the IMF's resources at risk. This lending typically does not lead to financial losses, but it does reduce the money that the IMF has available to lend to countries facing truly short-term problems. Finally, it leaves the country itself worse off: After exhausting the IMF's lending capacity and willingness to avoid a payments standstill and a restructuring, the country will not be able to borrow additional IMF reserves to limit the risk of a broader financial collapse as the country goes through its restructuring. Backing the wrong strategy has a large opportunity cost.

Is It Riskier to Provide Too Much Financing or Too Little?

It is easy to say that the provision of official "liquidity" is the right response to a "liquidity" crisis. It is much harder to answer the question of how much liquidity is needed.

Both lending too little and too much can be risky. Small loans may fail to reassure investors that the country's finances are strong enough to withstand the withdrawal of credit by those least committed to the country. If large capital outflows overwhelm a small loan while a large loan can stop, or at least slow, the run and give the country a chance to improve its policies, then the large loan may be less of a risk than the small loan. This is not just a theoretical proposition: The data presented in chapter 4 show that some large loans have been paid back quickly—indeed, more quickly than some smaller loans.

However, lending large sums to a country with substantial debt is always risky. Even an extremely large loan is not enough to guarantee success, since the potential demand for foreign exchange—including that from domestic residents seeking to flee—is usually more than the financing the official sector can reasonably provide. Moreover, the most effective way to address concerns about a liquidity shortage is to provide large amounts of money to the country quickly. But this response risks providing the country with large amounts of financing before it has time to show its ability to implement the policies needed to improve its long-term solvency. A large loan can fail because even it may not be big enough, because the country is unable to sustain the implementation of needed policies, or because the country simply was in deeper trouble than initially believed. A failed large loan leaves both the country and the official sector in a worse position than a failed small loan. Argentina is a prime example.

Obviously a balance has to be struck here. The key challenge is providing enough liquidity—relative to the potential sources of drain—to catalyze a positive solution, without exposing the official sector to too much risk should everything go wrong. The less money that is provided upfront, the easier it is to shift approaches quickly if the provision of liquidity, plus adjustment, fails to convince the needed number of investors to stay in. If an initial burst of “catalytic” financing fails, the country can shift approaches and impose a standstill on the remaining claims before running up a large debt to the IMF and other official lenders. On the other hand, the possibility of the official sector shifting approaches makes it harder for small amounts of money to achieve the desired result. If creditors conclude that the initial loan doesn't provide the country with enough money to have a chance of working, they have every incentive to get out while they still can.⁶

A comparison between official lending to Mexico in 1995 and Russia in 1998 is instructive. Mexico's rescue package was large enough to cover a substantial fraction of near-term pressures, so a very large fraction of the loan was made available to Mexico immediately. In Russia, catalytic fi-

6. If the country has substantial reserves when it approaches the IMF, then the IMF can set the reserve floors in the IMF program to allow the country to spend a significant fraction of its own reserves. The IMF effectively authorizes a country to spend its own money to finance a surge in demand for foreign currency. Subsequent IMF financing can then allow the country to rebuild its reserves if it meets program conditions.

nancing was tried without as much conviction. Less money was made available, with more tranching and a greater willingness to move quickly toward a restructuring if an initial round of financing—and lack of credible policy adjustment—failed to produce signs of quick improvement.⁷

The nature of the country's payments difficulties, the country's debt profile, and the risk of a restructuring triggering a broader run will all combine to determine whether a strategy of "official lending and adjustment to avoid *any* debt restructuring or payment holiday" is a worthwhile bet. The amount of financing needed to give such a strategy a fighting chance also depends in part on the nature of the country's financial difficulties. If only one actor in the economy is experiencing financial difficulties, for example the government, then enough money could be provided to cover that actor's near-term debts. But such a loan would not be enough to meet the additional demand for foreign exchange from private firms unable to roll over their debts or from the banking system if depositors pulled their savings out of local banks en masse. It would also not cover all government debt payments over a longer time frame.

Combining Official Financing with a Coordinated Rollover

When policy credibility is lacking, investors lack complete information about the country's true financial health, the country's economic conditions are uncertain, and official lending does not provide enough money to protect everyone from losses, risk-averse investors may still prefer to withdraw rather than roll over their investments. Even if the official sector provides substantial support, the basic collective action problem remains: If one creditor stays in and all the others run, the one that stays in risks incurring losses. In some cases, combining official financing with a coordinated rollover of some classes of claims may be more effective than official financing alone.

Korea is the obvious example.⁸ The country faced a large spike of payments on its interbank credits at the end of 1997. An initial \$10 billion from the IMF and other official creditors failed to stop the run. One pol-

7. The fact that the Duma could not deliver on promised fiscal adjustment made the decision to cut off Russia's IMF financing easier. However, the program could have still failed to engender the needed improvement in confidence even if the Duma had shown more willingness to make reforms, given the sheer scale of maturing GKO's that needed to be refinanced and the need for interest rates on GKO's to fall quickly to avoid a debt trap. The IMF program did not provide anywhere near enough financing to cover all maturing GKO's.

8. Blustein (2001) provides a detailed account of Korea's crisis. IMF officials recognized the risk of the initial IMF loan being too small to stop the run. They initially had expected the bilateral component of the IMF program to be part of the "first line" of defense and to be disbursed alongside the IMF financing, not "second line" and available only in the event of undefined contingencies. The two-month period of Korea's crisis also coincided with an election and significant uncertainty about the direction of policy.

icy option would have been to increase the amount of official financing available. Another would have been to leave Korea alone to address its problems without any help from the IMF or G-7. The latter option would have forced Korea to declare a unilateral standstill on the payment of its external bank debt. Neither option seems preferable to the option that was actually adopted—combining official financing with official help in organizing a semivoluntary rollover agreement.

Korea was lucky: A relatively small and homogenous group of creditors accounted for most of the debt falling due in late 1997 and early 1998. These are precisely the conditions when a coordinated rollover supplemented with official financing is most likely to be effective. Many argue that it is possible to negotiate a targeted rescheduling with a consortium of international banks but not with more widely held bonded debt. We would not be so sure. Some traded securities are relatively narrowly held. Plus, examples abound of debt exchanges that have successfully extended the maturity of traded securities. Conversely, the rescheduling of interbank lines may be becoming more difficult: In Turkey, the major international banks often acted as intermediaries for hedge funds and other investors who wanted to play the Turkish interbank market for high overnight yields while retaining the option of getting out fast.

A targeted attempt to coordinate the rollover or rescheduling of a single set of claims is quite different from a general standstill on all payments. Any attempt to defer payments on some claims can have two effects on other creditors and investors. On one hand, changing short-term to long-term debt reduces demand on the country's reserves. On the other hand, the need to seek a coercive restructuring itself is a negative signal that risks triggering a broader run.

In Korea, a negotiated standstill on external bank payments reassured, not spooked, other investors. A negotiated standstill reduced the risk of a more disruptive unilateral moratorium on payments, and the rollover agreement was part of a broader package of official lending and policy reform. Other partial bank holidays have had the opposite impact. Argentina imposed a partial bank holiday on domestic bank deposits at the end of 2001 (a freeze on sight deposits). Its holiday was unilaterally imposed—though it is difficult to see how Argentina would have negotiated with millions of small depositors—and was not combined with the announcement of a credible path through its financial difficulties. Not surprisingly, bank depositors scrambled to find other ways to get out.

Liquidity Difficulties That Signal Risk of Future Insolvency

Many liquidity crises stem in part from incipient solvency problems. Difficulty rolling over debts creates an immediate shortage of liquidity, yet growing debt levels may also imply the need to increase the primary fis-

cal balance or to let the exchange rate fall to improve long-term solvency. The country is not insolvent if it can deliver sufficient, sustained policy reform, but it is not in trouble solely because of liquidity difficulties either.

Both are the most common type of crises and the most difficult to address. One option is to provide significant amounts of official financing to solve the liquidity problem. However, this transfers onto the official sector much of the risk of the sovereign not being able to deliver the needed policy adjustments. Another option is to reschedule sovereign claims coming due at a normal—that is, precrisis—interest rate (a truly voluntary swap at market rates would aggravate concerns about future solvency as discussed later). Private creditors retain their exposure to the underlying risk and will take losses if the country fails to deliver needed policy improvements or is subject to an unanticipated shock. But the terms of the debt restructuring also leave creditors with a substantial upside if the country does recover. Pakistan, Ukraine, and more recently, Uruguay have followed this broad strategy.

A forced extension of maturities carries with it two risks. One, if many creditors refuse to participate in the restructuring, the sovereign may be forced into an unwanted default.⁹ Two, a forced change in the terms of the sovereign's own debt also risks triggering a broader run. Even successful efforts to force private creditors to defer some payment can lead to the emergence of other potential drains on reserves.

Are Targeted Debt Reschedulings Inequitable?

Any approach that singles out one set of claims for a rescheduling while providing financing to reassure other creditors and investors is inherently inequitable. Different sources of pressure on the country's foreign-currency reserves are treated differently: Some creditors and investors are paid in full if they want to exit while others are told that they need to reschedule their claims (Group of 22 1998a).

Concerns about inequities can be minimized if it is clear that one set of claims—tesobonos in Mexico, GKO payments in Russia, and interbank lines in Korea—accounts for the vast bulk of the pressure on a country's foreign-currency reserves. Concerns about equity—along with concerns about triggering a broader loss of confidence—are also mitigated if the restructuring does not ask too much from those creditors who are the focus of the rescheduling. Asking one set of creditors to reschedule their claims to solve a short-term liquidity crunch is one thing, but asking them to make deep concessions to improve the country's solvency when other creditors are not is quite another.

9. Schelling (1960) famously noted that threats—in this case the threat to default if creditors do not agree to a restructuring—are costly if they fail, while bribes are costly if they succeed.

Risks of Gradual Escalation

One approach to crisis management would be to try various options in sequence: First provide catalytic financing; if that does not work, organize some form of rollover; and if that too does not work, suspend payments and move toward more formal restructuring. This policy of gradual escalation would assure that every country gets a chance to see if it can avoid a restructuring with an initial official loan, even if that IMF conditional loan approach may have little chance of success.

Another approach would be to make an initial judgment about the likely success of pure catalytic lending and—if such probability is low enough—make the provision of liquidity contingent on the country's ability to negotiate a debt rescheduling—effectively a targeted payments standstill—with a set of its private creditors. Access to official financing can be made contingent on the country's ability to convince its interbank creditors to roll over their claims or contingent on the country's ability to execute a bond exchange that pushes out the maturity of its bonded debt. Making official support contingent on a targeted restructuring from the beginning, however, requires that the official sector make an upfront judgment about the likely success of catalytic financing—a judgment that is sure to be controversial and that the IMF may occasionally get wrong.

If the amount of official financing put on the table is too small—relative to the likely sources of demand for foreign currency—to have a realistic chance of stopping the run, it makes sense to move immediately to organizing a voluntary rollover or maturity-extending exchange. For example, Korea would have been better off if it had moved more quickly to seek a rollover, as the amount of money on the table in Korea was too small to have a realistic chance of stopping the run. Similarly, if the country's debt levels and policy track record combine to raise substantial concerns about the country's capacity to sustain the improved policies required for long-term solvency, a maturity-extending or reducing debt exchange should be part of a country's program from the start. In both cases, though, official lending is still needed, since the debt restructuring is likely to address only one of many potential sources of demand for foreign exchange.

Case for Pragmatism

We are pragmatists who believe the best approach to any crisis characterized in part by a liquidity shortage will hinge in part on the "facts on the ground." Details like how much is coming due when, whether the claims creating the most trouble are bank loans or traded securities, who holds the claims, what the potential is for negotiating a voluntary rollover to provide time to reach agreement on rescheduling terms, and the risk of a

concerted rollover of one set of claims triggering a run elsewhere all will help to determine the viability of different policy approaches.

We are pragmatists also in a second sense. One single approach does not make sense for all the circumstances when a liquidity shortage can arise. Lending too little can be self-defeating if it fails to stop the run. But the risk of lending too little has to be weighed against the risk of lending too much to the wrong countries—a risk that is particularly acute if large sums are needed before the country can show its commitment to improve its creditworthiness.

Standstills pose practical difficulties of their own—difficulties sometimes glossed over by their most vocal proponents. Which claims should be caught in the standstill? What will prevent a standstill on one set of claims from triggering a broader run? What steps need to be taken to allow the standstill to be lifted? It is far easier to imagine a quick exit from a targeted standstill that is followed by a quick agreement on a rescheduling (Korea exited from its interbank rollover arrangement in less than three months) than from a broad standstill (look at Argentina). At the same time, a narrow standstill risks triggering a broader run and ultimately failing to solve the crisis.

Finally, it is a mistake to think that a series of small and incremental steps offers the best way to avoid a bad outcome. Most approaches have the best chance of working when they are embraced early on, with enough conviction to be given a real chance to work.

Private-Sector Financial Difficulties

The easiest liquidity crisis to conceptualize is one where the sovereign itself lacks sufficient reserves to repay all of its maturing debts and barring a rescue, will be forced to suspend payments on its own debt. However, repayment of the sovereign's own debt is only one potential source of demand on the country's reserves. A shortage of foreign-currency liquidity can also arise under these conditions:

- the banking system is unable to roll over its external debts, and the government is unable to lend the banking system the hard currency it needs to make payments.
- domestic bank deposits are denominated in a foreign currency, and the banking sector itself lacks sufficient stocks of foreign currency to cover a surge in withdrawals.
- the corporate sector is unable to roll over its external debts, and firms in distress cannot buy the foreign exchange they need at a price they can afford in the market.

- domestic bank depositors pull their domestic-currency deposits out of the banking system and seek to convert all their holdings of domestic currency into foreign currency, causing the price of the domestic currency to fall and leading to pressure to intervene.
- more generally, investors are unwilling to hold domestic assets at the existing interest rates, and their desire to shift into foreign assets puts pressure on the exchange rate.

Such imbalances between the supply of and demand for foreign currency can arise if a private sector–driven boom leads to financial difficulties, as was the case in Asia. But such imbalances can also arise if a sovereign crisis leads investors and creditors to lose confidence in the financial assets of the country’s private sector. A bailout and a standstill remain the basic options, but the standstill has to cover transactions between private borrowers and their creditors and/or those private citizens looking to sell their local currency and buy foreign currency.

External-Bank Liquidity Crises

Banking crises are common in emerging-market economies. Such crises have many potential causes. A lending/credit boom—often fueled in part by poor bank supervision and other microeconomic distortions such as implicit guarantees—can lead to overlending and large loan losses when economic conditions turn sour. Exchange rate changes can result in large losses if the banking system itself has a currency mismatch or if the banks passed on their currency risk by lending in foreign currency to debtors that lack foreign-currency revenue. Heavy exposure to an overindebted sovereign also can push the banking system into crisis.

Developing and implementing a coherent strategy for addressing a severe banking crisis is difficult. Some form of “triage” is often needed to determine which banks are insolvent and need to be closed, merged with healthy banks, or both; which banks should be kept open but placed under temporary government control/tight supervision (“intervened” in the language of banking crises); and which are basically solvent and should continue to operate under their current management.¹⁰ To avoid passing losses onto depositors, the government often needs to recapitalize the banking system, usually by giving the banks government bonds to make up for their nonperforming assets.

Restructuring the banking system’s assets and closing bad institutions, though, is rarely enough. Steps also need to be taken to stop a run from

10. A complete discussion of the issues that arise in the resolution of banking crises is beyond the scope of this book. See Group of 22 (1998b) and Hoelscher and Quintyn (2003) for a detailed discussion.

draining the banking system of liquidity. Banks are, by definition, in the business of maturity transformation and cannot withstand a sudden withdrawal of either deposits or cross-border lines. If a significant fraction of bank liabilities—domestic deposits as well as cross-border lines—are denominated in a foreign currency, then the banks' need for liquidity usually translates into pressure on the country's foreign-currency reserves.

A sovereign almost always tries to stop a run by guaranteeing the banking system's foreign-currency debts.¹¹ If the guarantee fails to stop the run, then the sovereign needs to come up with sufficient foreign currency to honor its guarantee. If it cannot, then the sovereign either has to renege on its guarantee, leaving the banking system unable to honor its debts, or has to impose a standstill on the banks' foreign-currency liabilities.

The widespread use of government guarantees for cross-border interbank lines no doubt makes these kinds of crises easier to resolve. Even if the guarantee does not stop the run, the fact that the country's external creditors now have claim on the government makes it easier to negotiate a rollover arrangement or debt rescheduling. Rather than, say, 100 banks renegotiating their claims on 20 banks of different credit quality, they can simply negotiate with the government. This makes it easier to reach a negotiated agreement with the banking system's external creditors. The risk of a unilateral suspension of payments on the banks' external liabilities triggering a domestic bank run provides the crisis country's government with a strong incentive to use a guarantee to facilitate a voluntary agreement.

However, the widespread use of guarantees for interbank lines is quite troubling. Providing emergency liquidity to allow small domestic depositors, who lack the capacity to assess the creditworthiness of a complex financial institution, to exit without taking losses is one thing. Protecting sophisticated international banks from losses is quite another. The expectation that interbank lines, at worse, will become claims on the government may make international banks too willing to lend to shaky banks, and the easy availability of external financing can contribute to poor domestic lending decisions. Such guarantees are particularly pernicious when restoring the banking system's solvency may require a large taxpayer-financed bailout as well as the provision of emergency liquidity.¹²

11. South Korea, Indonesia, and Turkey all issued such guarantees at the early stages of their respective crises. Thailand guaranteed payment on cross-border lending to commercial banks but not on cross-border lending to Thai finance companies.

12. The provision of emergency liquidity to the banking system does not necessarily result in losses for taxpayers. So long as the central bank is supplying liquidity only to solvent banks, the emergency loan from the central bank just covers a temporary liquidity shortage. The bank retains enough good assets to assure full repayment of all creditors, including the central bank. However, it is often difficult to sort good banks from bad banks at the height of a crisis. In many cases, the government is less interested in trying to sort out good banks from bad banks than in protecting domestic depositors—and often the

But coming up with an alternative approach to cross-border bank runs is difficult. Most governments try to stop a run with a blanket guarantee and consider alternative policy approaches only if the guarantee fails to stop the run. Once such a guarantee is extended, the IMF is loath to make revoking the guarantee a condition for its lending. It would be better if governments issued guarantees to the banking system's external creditors only in exchange for a commitment to roll over maturing claims or even a formal rescheduling. But even here creditors are protected from outright losses if they lent to a bad bank, so long as the government can make good on its promises. Passing losses onto the banking system's external creditors requires locking in short-term bank creditors at an early stage of the crisis (or at least not guaranteeing the banking system's longer-term liabilities), some form of triage, and then forcing external creditors that lent to banks that either have to be closed or taken over by the government (intervened) to take outright losses.¹³

Eliminating expectations that the government will guarantee the repayment of cross-border interbank loans in a crisis, though, is likely to be next to impossible. Consequently, emerging-market economies need to regulate their banking system's external borrowing extremely tightly. Indeed, the unusual risks associated with external borrowing may justify imposing high reserve requirements (effectively a tax) on external borrowing. Such reserve requirements not only discourage external borrowing but also have the added virtue of creating a liquidity buffer that the banks can draw on before they turn to the government for emergency support.

Systemic Corporate Crises

A systemic corporate rollover and financial crisis poses much more difficult conceptual questions. The sovereign could guarantee full payment of private firms' maturing short-term external debts to stop a run on such claims.¹⁴ Fortunately, such an approach is rarely followed. An outright

banks' external creditors—from any losses. If the bank's assets are not sufficient to cover its liabilities, protecting the bank's creditors—domestic depositors and external creditors alike—from losses requires a taxpayer-financed bailout. This is typically done by giving the banks a government bond (a new asset) to make up for any gap between their existing assets and their liabilities. A recent estimate put the cost of a banking crisis at roughly 20 percent of GDP in Mexico, Korea, and Ecuador; 30 to 35 percent of GDP in Thailand and Turkey; and a staggering 50 percent of GDP in Indonesia, though these numbers may fall if these countries succeed in recovering more value from the portfolio of bad loans the government assumed during the crisis (Hoelscher and Quintyn 2003).

13. This is what happened to external lenders to Thailand's finance companies, as discussed in chapter 4. Lenders to Thailand's commercial banks, however, received a full guarantee.

14. In the 1980s debt crisis, Latin American sovereigns often were forced to assume the external debts of private firms—often state firms—to facilitate negotiations with external-bank creditors.

bailout of firms is hardly a good option: Firms are not regulated like banks, so expectations of a government bailout would make firms too willing to lower their financing costs by borrowing from abroad in foreign currency for short terms.¹⁵ Another option is to indirectly bail out firms by selling the sovereign's foreign exchange reserves to meet the surge in demand from firms, thereby reducing pressure on the exchange rate. Here, the domestic banking system effectively does the triage between healthy and sick firms: A healthy firm with maturing short-term foreign-currency debt ought to be able to obtain the domestic loan to purchase external reserves in the open market more easily than a sick firm. Yet another approach is to let nature take its course. Demand for foreign currency to repay external debts will put pressure on the exchange rate, and eventually, the exchange rate will fall to a point where firms stop trying to pay. Firms with foreign-currency debts are forced into bankruptcy. This approach avoids a corporate bailout, but it has costs of its own—particularly if many firms have similar problems. The result can be a systemic crisis in the corporate sector.

Even if the government initially stands back and avoids helping firms with heavy foreign-currency debts, it is unlikely to be able to stay out of resolving a systemic corporate crisis for long. Firms that cannot pay their foreign currency-denominated debts to external creditors typically also stop paying their domestic debts, and a crisis that stems initially from firms' difficulties in repaying their external debts quickly leads to large losses for the domestic banking system.¹⁶ In many cases, local firms have borrowed in foreign currency directly from the local banks, not just from foreign creditors. The ensuing banking crisis ends up drawing the government into the corporate restructuring process: As part of the process of recapitalizing the banking system, the government may take over either the banks or the banks' bad loans. In truly severe crises, this leaves the government—along with foreign lenders—as the theoretical owner of most local private firms. The resulting restructuring process is often extremely slow: Many firms remain formally bankrupt for a long time, with substantial economic costs.¹⁷

Finally, the sovereign can encourage voluntary corporate debt restructurings that keep firms that are unable to refinance their maturing exter-

15. Conversely, banking crises could be addressed like corporate crises, and the sovereign could refrain from guaranteeing the foreign-currency liabilities of all the banks and instead leave each individual bank to stand on its own feet. To our knowledge, such an approach has not been tried in any actual case.

16. Thailand, Indonesia, and Argentina are all examples.

17. Bankruptcy regimes in emerging economies are seldom strong, and few can handle the stress created if most of the economy's productive assets are under the supervision of a bankruptcy court. Local courts—and local legislatures—are often reluctant to allow foreign creditors to use bankruptcy proceedings to assume equity control over local firms that borrowed from abroad. Indonesia is the prime example.

nal debts out of bankruptcy. If the debt causing trouble is owed to external creditors, then the government has two broad options. It could offer a subsidy to encourage restructurings—for example, by offering exchange insurance to firms that reach agreement with their creditors¹⁸—or the government could impose controls that preclude private firms' repayment of unstructured external debts. Both are ways of providing firms with breathing space without providing an outright sovereign guarantee.

Either a coordinated restructuring of corporate debts or a broad suspension of corporate payments, though, raises more difficulties than a sovereign payments suspension. It is inherently difficult to reconcile the need for a collective solution that reflects the reality that many firms have similar financial problems stemming from a common problem—often too much short-term foreign-currency debt—and the need for a solution that also reflects the different financial positions of different firms. Controls that temporarily prohibit all foreign-currency payments, for example, will favor those who are unable to pay at the expense of those who retain the capacity to service their debts.

Consequently, a central issue in corporate “liquidity” crises is whether to take a case-by-case approach where each firm negotiates individually with its domestic and external creditors (possibly under an umbrella of common rules) or to take a centralized across-the-board approach where the central government largely decides the restructuring guidelines.¹⁹ A firm-by-firm approach will provide debt relief appropriate to each individual firm. However, the negotiating process takes time—rapid agreement on a rollover can be hard to get in a systemic corporate financial crisis, and without an agreement, most firms will fall into formal insolvency. Across-the-board solutions can avoid the delays associated with case-by-case negotiations and may make sense when many debtors suffer from the same problems.²⁰

The same issues arise if, as is often the case, the problem is not so much a shortage of liquidity but the systemic insolvency of a wide range of

18. Exchange rate insurance can be, in principle, either subsidized or unsubsidized. Exchange rate insurance, if subsidized, is more likely to encourage rapid agreement on a restructuring. The cost of the subsidized insurance has to be weighted against the probability that the insurance will help a country avoid a systemic crisis and the expected cost of the systemic crisis. In the worst case, firms that would have survived in any case take advantage of the subsidized insurance, while the country is still left with most of the costs of a systemic crisis.

19. An approach based on out-of-court individual debt renegotiation under the aegis of a set of broad principles is often called the “London approach.” The London approach was created in part because English bankruptcy law was not well suited to “in court” debt reorganization, so the Bank of England encouraged out-of-court corporate reorganization for firms that could avoid liquidation. Indonesia took a similar approach with its Jakarta Initiative; Korea did the same for the restructuring of the *chaebols*.

20. Stiglitz (2002) is among the most prominent advocates of an across-the-board solution.

firms. Indeed, the line between a systemic liquidity crisis and a systemic solvency crisis is very fuzzy: If many firms have borrowed in foreign currency, then a large currency depreciation is likely to leave all firms illiquid, in the sense that they are unable to refinance their maturing foreign currency-denominated debts, and many firms become insolvent as well. Some firms may be fine with just a temporary rescheduling, others will need to restructure both their operations and debts, and still others may need to be liquidated immediately.²¹

Here too there is a long-standing debate between the advantages of letting each firm and its creditors negotiate the right solution for the individual firm and the advantages of an across-the-board solution. The obvious advantage of a solution crafted to each individual firm has to be weighed against the sheer difficulty of renegotiating the debts of many firms at the same time and against the costs of letting many firms languish in bankruptcy for an extended period. An across-the-board solution is likely to have more advantages and fewer costs if dollar-denominated debt has created problems for many small local firms (and households); the advantages of a perfect triage have to be weighed against the logistical complexity of a case-by-case restructuring of thousands of small loans.

Across-the-board solutions to systemic solvency crises are certainly far easier to apply to domestic debts. Argentina, for example, imposed an across-the-board restructuring of domestic dollar-denominated debts when it pesified domestic dollar loans—leaving firms that had borrowed externally to renegotiate their foreign debts with their external creditors.²² A crisis country can create a uniform framework for restructuring firms' external debt, but it cannot unilaterally change the terms of external debt contracts. Such an across-the-board restructuring seems to be close to what Joseph Stiglitz (2002) had in mind when he called for a "super Chapter 11" to facilitate corporate debt restructurings when firms are subject to common macroeconomic shocks, though Stiglitz's proposal would have also

21. If payments are temporarily deferred, firms that have deeper problems are likely to eventually fall into default and go through bankruptcy. However, deferring payments temporarily rather than liquidating the firms immediately is still costly. The firms' owners have an incentive to run the firms into the ground (asset stripping) during the temporary standstill—minimizing their losses while increasing the losses of the firms' creditors. On the other hand, there are also incentives problems if most firms, including the merely illiquid ones, are allowed simply to go bankrupt. Creditors usually do not want to take over operational control of a broad set of firms—monitoring the behavior of existing management is difficult—and even if creditors do want to assume control of the firm, the process of transferring control from existing management to creditors is usually slow. At various points in time during a protracted period of bankruptcy, the incentives of the management and of the firms' creditors will not be perfectly aligned.

22. The need for some form of across-the-board solution in Argentina is hard to argue with, given the scale of the country's domestic-currency mismatch. Whether "asymmetric pesification" provided the appropriate solution—or provided too large a subsidy to certain debtors at taxpayers' expense—is a more difficult question that is explored in chapter 7.

provided protection from litigation from external creditors holding unstructured claims.²³

Exchange Rate Crises and Capital Controls

Exchange rate crises arise when investors—residents and nonresidents alike—are unwilling to hold financial assets denominated in domestic currency at the prevailing interest rates. For example, domestic depositors pulling local currency–denominated deposits out of the banking system in a run often want to flee to the safety of foreign assets. The emergency liquidity (domestic currency) that the central bank supplies to the banks quickly translates into pressure on the exchange rate.

The government has four basic options to reequilibrate demand for domestic and foreign financial assets. First, the sovereign can let the exchange rate fall—with potentially devastating consequences for those who have borrowed in foreign currency. Second, the sovereign can intervene in the foreign exchange market, by selling either its reserves or domestic debt denominated in foreign currency. Third, the central bank can raise short-term interest rates to make domestic currency–denominated financial assets more attractive than foreign assets (assuming that domestic debtors can afford to pay the higher rates). Finally, the government can impose capital and exchange controls that prohibit the purchase of foreign exchange with domestic financial assets.²⁴

Exchange controls have to be evaluated against the other policy options. They can be used in different circumstances:

- to defend an overvalued exchange rate, defined simply as an exchange rate that requires continued net capital inflows because it is consistent with a current account deficit (Thailand). The goal is often to force investors to close out short positions that have been financed by borrowing local currency from the banking system, thus defending the exchange rate without raising domestic interest rates.
- to prevent an already depreciated exchange rate from overshooting on the downside in the absence of a payments standstill on either the sovereign’s external debt or the private sector’s external debt (Malaysia). Here, controls are an alternative to raising local interest rates

23. The external creditors of Argentine firms have exercised considerable forbearance and generally have not sought to obtain operational control of firms that are not paying their debt. Neither bondholders nor the major international banks particularly want the headaches associated with running politically unpopular Argentine utilities.

24. If a bank run is contributing to the imbalance in the foreign exchange market, the sovereign could also declare a bank holiday. Limiting access to domestic currency limits the number of people who can convert domestic currency into foreign currency.

to defend the already depreciated exchange rate or to selling foreign exchange reserves to limit the depreciation.

- imposed in conjunction with a payments standstill on government, banks, and firms' external debts (Argentina and Russia) to prevent an already depreciated exchange rate from falling further and causing excessive overshooting that exacerbates balance sheet effects. It is less clear that controls substitute for higher domestic interest rates here: Neither the government nor the banking system may be honoring their short-term debt.

The use of exchange controls to defend an overvalued exchange rate is typically a bad idea. Such an exchange rate requires continued capital inflows from abroad to cover an ongoing current account deficit, and limiting the ability of existing investors to get out is not the best way to attract additional investment. Moreover, controls do not eliminate investors' basic incentive to get out before a possible devaluation.

The use of controls to prevent an already depreciated exchange rate from depreciating further raises more difficult issues. Excessive exchange rate overshooting is costly if the country has extensive foreign-currency debts. The orthodox response, raising domestic interest rates, is also costly if the economy has a large stock of short-term debts. If short-term interest rates have to stay high for an extended period, the high short-term rates could drive many banks or firms into insolvency, further undermining confidence. The fact that the exchange rate has already adjusted before the imposition of controls is important, since the current account surplus associated with the depreciated exchange rate should eventually generate pressures for appreciation, and thus provides a potential exit strategy. But using controls to limit the ability of private citizens seeking to exchange their domestic currency for foreign currency (both foreigners and domestic citizens) in a private market transaction is obviously an extreme, and potentially costly, step.

Malaysia famously introduced such exchange controls simply to obtain additional monetary policy flexibility even though it was not experiencing congruent external payment difficulties. More commonly, countries have introduced controls to stem pressure on the exchange rate after a sovereign default (see chapter 4).

There is good reason to be suspicious of capital controls. The temptation to impose controls to substitute for important policy adjustments—including letting the exchange rate adjust—is real. Thailand's use of controls to protect the overvalued baht is a case in point. Controls inherently give rise to the potential for corruption. At the same time, a religious prohibition against capital and exchange controls in all circumstances is neither realistic nor desirable, especially when sovereign debt suspensions and standstills are already used as part of the crisis resolution process.

Countries with both a large stock of debt indexed to short-term interest rates and a large stock of debt denominated in foreign currency will find the trade-off between tight money and a depreciated exchange rate more acute than advanced economies that have large stocks of long-term fixed-rate domestic-currency debt. Most countries will try to use all possible tools to stabilize their exchange rate after a sovereign default. Countries that have already integrated into the global market are right to shy away from using controls. However, exchange and capital controls have to remain options in extreme circumstances.

Alternative Approaches to Liquidity Crises

The choice between an official bailout and a standstill that locks in creditors is stark. One requires large-scale official intervention in the market. The other requires that the crisis country violate its contractual commitments and negotiate a rescheduling with its creditors. A number of proposals seek ways either to mobilize private funds for countries facing liquidity crises or to make it easier to suspend payments, at least temporarily, without violating contractual commitments. These proposals seek to make the choice between liquidity support and a standstill less black and white—although we argue that none succeeds at offering a true alternative. Proposals to avoid direct loans to the crisis country and instead to prop up the price of emerging-market debt to limit contagion are also considered.

A Private Lender of Last Resort?

Many have asked why the private sector cannot provide crisis liquidity to countries that are illiquid but not insolvent. Mobilizing private funds avoids not only the need for a large loan from the IMF or the G-7 but also the need for a standstill. Private emergency lending also has precedent. Consortiums of private US banks—usually organized by JP Morgan—provided lender-of-last-resort support to other US banks during a financial crisis before the creation of the Federal Reserve System.

Theoretically, it is possible to argue that private-sector initiatives to bail out emerging economies have not emerged because of the availability of official financing. However, it is far more likely that official lending has emerged because private investors have not been able to mobilize the necessary crisis liquidity.²⁵ The difficulties with a private lender of last resort

25. Similarly, the creation of the Federal Reserve System was in part the result of the realization that private lenders-of-last-resort solutions in domestic financial crises had serious limitations.

are well known. First, every creditor would rather flee and have another creditor put up the needed liquidity, creating a collective action problem. Second, risk-averse investors often would rather flee than increase their exposure if the debtor's solvency is even partly in doubt. Indeed, the risk management programs of most financial institutions lead them to reduce their exposure in a crisis—not to lend into a crisis. Third, no private agent is large enough, patient enough, and risk-neutral enough to be willing to provide large-scale support to a crisis country at interest rates that do not exacerbate the country's financial distress. No existing private agent is large enough to internalize the collective action problem. The emergence of a private lender of last resort is extremely unlikely.

Voluntary Debt Swaps in Crises

If a country has lost access to capital markets, one way to reduce pressure on reserves is to perform a voluntary debt swap to stretch out the maturity of debt coming due in the near term. This reduces the country's immediate need for cash. As discussed in chapter 4, a voluntary swap can be performed at current market yields without the threat of default: The market value of the new bonds offered in the exchange has to equal or exceed the value of the old bonds. Voluntary debt swaps (and debt buy-backs) are standard debt management tools, often used in lieu of new issuance. For example, Mexico, Brazil, and many other countries have conducted voluntary "Brady bond for eurobond swaps" in recent years to lower their debt service costs during normal market conditions, when spreads are not very high. However, voluntary debt swaps take on a different character in crisis conditions, when spreads are very high.

Voluntary swaps conducted during crisis conditions typically have severe economic costs: Short-run cash flow relief is expensive when market spreads are high. A country may buy time but at the price of making its long-term debt problems substantially worse. A country that tries to re-profile its debt at high crisis rates risks making the same mistake as an individual who, facing difficulties servicing a mortgage that was taken out when interest rates were low, decides to refinance the mortgage at much higher interest rates in order to obtain a few years of debt-service relief. The probability of the sovereign being able to service in full and on time the new, expensive debt created in the swap is likely to be very low.²⁶ In

26. The most significant example of a voluntary swap under crisis conditions is Argentina's summer 2001 "megawap." Chapter 4 covers this transaction in some detail. Note here that the \$30 billion exchange provided Argentina with short-run debt relief but only in exchange for unrealistic promises to pay more on its debt in the future. Consequently, the exchange was quickly followed by an intensification of Argentina's crisis. At the time of the megawap, the spread on Argentina's debt was about 950 bps, and Argentine debt yielded over 15 percent. The country reduced its undiscounted debt payments by \$12 billion in the five years after the deal by promising to make future, undiscounted debt payments of \$56 billion.

crisis conditions, an exchange that pushes out maturities without worsening the country's long-term sustainability will be necessarily somewhat coercive.

Guarantees and Enhancements

A number of proposals have been made to mobilize emergency liquidity from private creditors by providing an official guarantee for private crisis lending, by otherwise extending the official sector's preferred status to private lending, or by making it possible for private creditors to obtain collateral to back their crisis lending. Gerald Corrigan's (2000) call for the official sector to move away from large official loans—sometimes combined with coercive efforts to involve private creditors—and instead to use enhancements to mobilize private funds in a crisis is typical of these kinds of proposals. Private creditors could provide crisis liquidity if they had access to the same preference in repayment given to official creditors or if the official sector found other ways to “enhance” private lending.

These proposals generally have the same basic advantages and disadvantages of an IMF loan, as they generally use the official sector in some way to make it attractive for private lenders to provide funds when they otherwise would be unwilling to lend. Nonetheless, there are differences between proposals that seek to mobilize private funds with a full guarantee from the official sector (or a G-7 country), a partial official-sector guarantee, and by pledging collateral to back private lending.

Full Guarantee. One easy way to mobilize crisis lending from the private sector is to provide a full guarantee: If the country cannot pay, the official sector picks up the tab.²⁷ A fully guaranteed loan is simply a less transparent official bailout. The private sector puts up the money only in name. A cynic might also note that the investment banks would earn fees on guaranteed loans that they do not on IMF loans—and even a small fee on a \$10 billion guaranteed bond issue is real money.

If the country's future debt burden is calculated by discounting the new debt at the high crisis rates, the exchange did not increase the country's debt burden. However, from the country's point of view, it does not make sense to discount long-term debt at a rate of 15 percent—a rate that implies almost certain default on long-term debt. If the “before” and “after” cash flows are compared using “normal” discount rates, the megaswap clearly increased the net present value (NPV) of Argentina's debt. At a discount of 12 percent, this increase in the NPV of debt was \$5 billion; at a discount rate of 7 percent the increase in the NPV of debt was about \$15 billion.

27. The IMF's Articles of Agreement do not allow it to guarantee payment on a sovereign's external debt. The IMF can only lend to help a country buy collateral. The World Bank, the other multilateral development banks (MDBs), and any of the G-7 countries, in contrast, can guarantee payments on a sovereign's external debt.

Partial Guarantee. Partial guarantees are just what their name suggests—loans that the official sector backs partially, not fully. The key question is whether a partial guarantee can successfully mobilize the foreign currency the country needs in a liquidity crisis. In most cases, the answer is no.

The market typically prices and values partially guaranteed instruments as being the combination of two components: a guaranteed loan, which is valued as G-7 or World Bank risk, and an unguaranteed loan, which is valued as pure country risk.²⁸ The guaranteed portion of the loan provides a financial benefit to the debtor, since the guarantee lets a risky country borrow at a risk-free rate. But apart from this subsidy, blending a guaranteed and an unguaranteed bond does not create any extra value. Indeed, the markets usually value such an instrument as being worth slightly less than a separate World Bank bond and a separate unguaranteed country bond.²⁹ A \$3 billion guarantee for a \$6 billion bond is very similar to being able to borrow \$3 billion from the official sector and \$3 billion from private creditors.

Various proposals have been made to create partial guarantees that produce “more bang for the buck.” However, arguments that these structures, unlike a simple partial guarantee, can exploit market inefficiencies and create value are not fully convincing. In most cases, proponents of these guarantees argue that while the official guarantee is formally and legally limited to only part of the cash flow (say a rolling interest payment), the “halo” of that guarantee will fall on the entire loan and lower the spread on the uncollateralized component of the loan. The market will believe that the debtor is less inclined to default on even the unguaranteed payments.

Simple structures that combine a clearly guaranteed and a clearly unguaranteed payment stream have failed to produce this kind of “halo.” For example, the market did not assign a halo to the uncollateralized portion of a Brady bond. Financial engineers also have experimented with more complex structures designed to convince investors that the amount of de facto protection the limited guarantee provides far exceeds the size of the formal guarantee. In general, these experiments have not worked well.

28. The so-called stripped spread of the bond should be equal to the spread on uncollateralized or unguaranteed instruments.

29. While Brady bonds are not formally guaranteed, the “Brady” collateral acts as a form of de facto guarantee on the repayment of Brady bond principal. A classic collateralized Brady combines a fully collateralized principal payment (since the payment is backed by a 30-year treasury) and a largely uncollateralized interest payment stream. Collateralized Bradies have been disappearing from the market, however, because the market prefers “pure” country risk, and it is advantageous to the country to retire the Brady bonds in a “Brady bond for eurobond” swap.

No structure is more ingenious than a rolling reinstatable guarantee. In this structure, the World Bank guaranteed the first payment (or first two payments) of the bond. If the country made the first payment, the guarantee rolled to the next payment. If the country could not pay the guaranteed tranche, the World Bank would pay, and the country would have a brief period to repay the World Bank. So long as the country could come up with the funds to repay the World Bank, the guarantee was “reinstated” and rolled to the next payment. The idea was simple: The country would not want to default on the World Bank, so the guarantee would almost certainly roll over and eventually cover the full bond. While the World Bank formally guaranteed only the first payment, the “halo” of the guarantee would extend to the entire instrument.³⁰

In practice, the market found this structure hard to understand. Bonds issued with rolling reinstatable guarantees were valued more like a single guaranteed bond and a series of unguaranteed bonds than like a series of payments all of which benefited from a World Bank guarantee. This structure was used to help countries facing a temporary (or so it was argued) widening in the market spread on their bonds to place bonds at a more reasonable price, not raise funds at the height of a crisis.

More important, Argentina—one of three countries to experiment with this structure—put the rolling reinstatable guarantees to test in its default. Argentina missed the guaranteed payment on its rolling reinstatable bond; the World Bank made that payment; and Argentina, in turn, owed the World Bank the money it had paid on the guarantee. That was the easy part. The hard part was deciding whether to pay the World Bank back in time to allow the guarantee to be “reinstated” and then “roll” on to the next payment. Argentina opted *not* to pay the Bank within the period required for the guarantee to roll. This ended any chance of the guarantee being “reinstated” and assured that the formally unguaranteed tranches would not be protected. This was within Argentina and the World Bank’s rights, but it also destroyed any chance of convincing the market that the structure would confer a “halo” in similar future deals of this type.

Indeed, Argentina’s crisis powerfully highlighted the real risks associated with reinstatable guarantees. In a crisis, the official sector and the country have to decide whether the “halo” is real: Ambiguity has no room. Either the bond benefits from just the partial guarantee and the un-

30. Had this structure worked as advertised, the combined instrument would be worth more than the sum of its parts (unlike a Brady bond). But even here, the structure is not really creating value. Rather, the structure is effectively transferring value from other unguaranteed bonds to the holders of the partially guaranteed bond. The holders of the nonguaranteed part of the partially guaranteed loan benefit because their claim is being given seniority relative to other nonguaranteed claims. Chapter 8 argues that it is usually more efficient to provide seniority explicitly rather than through clever financial engineering.

guaranteed parts are restructured, or the entire bond is paid.³¹ Had Argentina honored its partially guaranteed bond in full, it effectively would have ended up with more senior debt. In some sense, it would be in the worst of all worlds. It would have paid a higher *ex ante* rate for borrowing through this complex structure than for borrowing directly from the multilateral development banks (MDBs), yet *ex post* it would have treated the bond like other low-cost MDB debt. As it turned out, the creditors that believed in the bond's structure lost out rather than Argentina.

Fully or Partially Guaranteed Debt Exchange or Swap. Guarantees and other enhancements also can be used to encourage participation in a voluntary debt swap—both swaps that seek to extend the maturity of the country's debt and swaps that aim both to solve short-run liquidity problems and to reduce the country's debt burden. The most famous example is the Brady plan. Official lending was made available to help countries purchase the collateral (long-term US treasury bonds) used to “enhance” the Brady bonds offered in exchange for debt reduction (not all countries borrowed from the official sector to buy the needed collateral—for example, Brazil paid for the collateral out of its own reserves).

The need to break the impasse that had prolonged the 1980s debt crisis may have justified the subsidy inherent in such lending. But most proposals for partial guarantees are not designed to end a period of prolonged default but rather to support voluntary debt swaps that would help a country avoid immediate default. For example, the US Treasury called for the IMF to use \$3 billion of Argentina's augmented August 2001 IMF loan to support a deal that would restore Argentina's debt sustainability.

As discussed earlier, the core problem with market-based voluntary swaps in crisis periods is that paying crisis interest rates to defer payments is very expensive. Enhancements potentially offer a way out of this bind—a subsidy from an official lender can make the exchange more affordable to the country. However, there is no free lunch. A partially guaranteed swap—barring the use of a structure like a rolling reinstatable guarantee that tries to create leverage out of fuzzy complexity—is like a partially guaranteed new issue. The exchange can be broken down into two components: a voluntary exchange of old debt for new, guaranteed debt and a voluntary exchange of old debt for new, more expensive, unguaranteed debt.

The easiest way to understand the guaranteed component of such exchanges is to compare it with taking out an IMF or World Bank loan to fi-

31. Technically, Argentina could have honored the bond in full with the rolling reinstatable guarantee either by paying the instrument in full and never calling on the MDB guarantee or by taking out a long-term loan from the World Bank in time to pay the short-term obligation that Argentina incurred from the Bank after it called on the guarantee. If the Bank had made additional funds available quickly, the guarantee would have been reinstated and rolled to the next payment.

nance the repurchase of existing market debt at a discount, since the same basic analysis applies. If the country's existing debt trades at a deep discount in the market, trading market debt for official debt (whether through a swap or an outright buyback) lets the country reduce its existing debt stock at the margin. For example, the \$3 billion made available to Argentina in the summer of 2001 could have bought back either roughly \$4 billion of short-term debt (which traded at around 75 cents on the dollar) or \$6 billion of long-term debt (which traded at around 50 cents)—so Argentina could have reduced its overall debt stock by between \$1 billion and \$3 billion and slightly reduced its overall coupon payments as well. The government of Argentina had about \$95 billion of traded debt at the time. Reducing that debt to \$92 billion would not have made Argentina's debt any more sustainable.³²

A bigger buyback obviously could have had a bigger impact, but it creates another problem: A large voluntary buyback is likely to drive up the market price of the country's debt, reducing the amount of debt relief possible in a voluntary exchange.³³ Any increase in the market prices reduces the debtor's gains from a large buyback financed by official lending, as creditors capture more of the benefit of official lending. Embedding the exchange of existing debt for new, guaranteed debt in a bigger transaction that has a large unguaranteed component also cannot increase the transaction's size. However, the conditions when exchanging existing debt for new, guaranteed debt is attractive (the existing debt trades at a deep discount) are precisely the conditions when exchanging existing debt for new,

32. Formally, the NPV benefit for the country would have been the difference between the interest rate on the retired debt relative to the interest rate on the IMF loan times the amount of the IMF loan. Borrowing \$10 billion from the IMF at 4 percent to retire debt yielding 15 percent only implies NPV benefit of \$1.1 billion, practically nothing compared to Argentina's overall external debt of over \$100 billion.

33. Bulow and Rogoff (1988a, 1988b, 1989b) provided the classic critique of using official resources to finance debt buybacks. They argued that the buyback increased the residual value of the remaining debt, so the gains from official enhancements went to the country's remaining creditors rather than the debtor. The exact distribution of gains depends on a range of assumptions. For the academic debate on the "debt buyback boondoggle," see the exchange between Sachs (1989, 1990) and Rogoff and Bulow. Rogoff and Bulow formally critiqued using official resources to buy back the debt of a country that is already in default: Higher market prices on the country's remaining debt implied that the subsequent debt restructuring would result in a higher future debt burden. The analysis is slightly different if the country is already paying its debt. So long as the country ends up paying its debt, the country's debt burden is fixed by contract and independent of the price the market assigns to its debt. In order to realize any gains from a low market price, the country has to default and restructure. Ironically, if junior creditors conclude that an exchange financed with senior debt is unlikely to provide enough relief to let the country avoid default, the exchange may not have much of an impact on the debt's secondary-market prices: Fears about subordination and the risk of larger losses in the event of a default will trump the impact of adding a new buyer to the market.

unguaranteed debt is unattractive, because of the high rate creditors will demand in any voluntary transaction.

Whether the buyback is large or small, using senior debt to retire junior debt makes the country's debt stock more rigid. This is important: Replacing debt that can be reduced in a restructuring with debt that cannot will leave both the country and its remaining junior creditors worse off if the buyback/guaranteed exchange fails to provide enough relief to allow the country to avoid default. In general, attempts to use financial engineering to find a solution to severe debt-servicing problems are futile—and often harmful. Using official resources to make a transaction that tries to improve the country's debt sustainability on truly voluntary terms is inefficient and very costly: Only a coercive debt restructuring can provide the meaningful debt relief to restore sustainability.

Secured Lending. Others have proposed raising crisis financing by issuing sovereign bonds backed by some form of security—be it oil or other export revenues. Martin Feldstein (1999, 2000), for example, suggested that Korea raise crisis liquidity by issuing bonds backed by export revenues.

These proposals suffer from four problems:

- The sovereign that does not impose exchange controls has no claim on the export revenues of private firms and therefore cannot pledge those revenues to back a sovereign bond issue. Exchange controls can include a “surrender” requirement that forces private firms with export revenues to sell the foreign exchange they earn to the government, but once such controls are lifted, private firms are under no obligation to turn their export revenues over to the government. Indeed, the firm may well have pledged its export earnings to back its own debt, in which case the government has to buy the foreign exchange in the market to make its own debt payments.
- If high-risk emerging-market economies could easily borrow on a secured basis, they almost certainly would use their ability to issue secured debt to lower their overall borrowing costs—not as an emergency source of crisis liquidity. The key limit on “securitization” is that the sovereign's basic asset is domestic tax revenue—an asset that hardly can be pledged credibly to creditors.³⁴
- Some sovereigns do have access to foreign currency that they could pledge to back a bond issue, including transfers from a state oil company, taxes on the export of petroleum/other products, or the interna-

34. Argentina pledged the revenue from its financial-transactions tax to back a “guaranteed loan” in one of its final efforts to avoid default. In practice, however, this structure failed to protect investors from losses—the loans were either pesified or the holders were forced to give up the guaranteed loan and take the original global bonds.

tional receivables of a state-owned telecom company. But even here there are limits. For example, a country could unilaterally cut its petroleum export tax, leaving its creditors with less security. Full protection requires complex financial engineering, which diverts revenues through an offshore account that the creditors have access to before the sovereign gets its hands on the money.

- Most fundamentally, new secured debt should reduce the value of existing unsecured debt. Sovereign debt contracts typically contain negative pledge clauses—provisions that say the sovereign cannot give security to new debt unless it gives security to all existing debt as well—to protect existing creditors against such a risk. It is often possible to engineer around such provisions. But the basic risk that these provisions were designed to protect against remains: Barring an increase in the country's payment capacity, new secured debt should decrease the value of the country's long-term unsecured debt.

Pledging revenue streams or collateral to create a security interest has a negative impact on claims (whether private or official) that are not given access to the pledged collateral or revenue.³⁵ Some creditors gain, but typically at the expense of other creditors. The debtor's ability to pay is usually not increased simply because it has taken out a secured loan. There is no free lunch.

A pledge of security can create value in certain circumstances. For example, in the event of a liquidity run, securitized lending—like official lending—may improve welfare by avoiding a default created by a run

35. In general, the analytical literature on securitized credit (see, for example, Klapper 2000 for a review) finds that secured loans occur at the expense of unsecured loans—pledging collateral or providing seniority to one lender subordinates the claims of other creditors. Secured lending may have a rationale if there are informational asymmetries. For example, the borrower may not be able to credibly “signal” to potential lenders that its likelihood of defaulting is lower than the one perceived by the market; then, pledging collateral in exchange for such lending may help signal that default is not likely. Secured lending can also help address other agency problems. Jensen and Meckling (1976) show that collateral controls for the risk of the debtor engaging in asset substitution—i.e., borrowing to invest in riskier assets than the creditor anticipates. However, it is not obvious that “collateral” helps address the problems inherent in sovereign borrowing and lending. For example, a highly indebted sovereign who is likely and willing to default and is currently unable to borrow more may use the enhancement or collateral to receive new nondefaultable loans. But rather than signaling the sovereign's greater capacity to pay all loans, the pledge of collateral may simply transfer value from existing unsecured loans, as collateral (the sovereign/country's assets) that previously was available for all creditors is pledged to back the new secured loans. If the country ends up defaulting, unsecured creditors receive even less than they otherwise would have. Rather than correcting an information asymmetry, the use of collateral can allow the sovereign to transfer assets to a select group of favored creditors or to gamble for resurrection.

that fundamentals do not justify. Here pledging security to raise new money offsets a creditor coordination failure. However, given the difficulties in securitizing sovereign revenue streams, it is not at all obvious that “securitization” offers a better model for resolving sovereign liquidity crises than the existing model of IMF lending. Indeed, the IMF’s ability to lend on the strength of its preferred status creates a tool that can be mobilized more quickly and used to help a wider range of countries than would be possible if the only way of mobilizing emergency liquidity was through a pledge of security. Moreover, IMF lending also comes with conditionality that, in principle, should increase the debtor’s ability to pay all creditors. In contrast, a debtor’s ability to find assets to create a security interest may be independent of its commitment to making needed policy changes.

In sum, the proposals to mobilize private financing in liquidity crises generally are less effective and a less transparent means of mobilizing crisis liquidity than a plain old IMF loan. Most have the same basic effect on the country’s finances—they give the country access to a new asset (the foreign exchange raised by the debt issue) and create an offsetting liability that the country promises to pay before it makes other payments. Raising the funds on private markets is not a virtue, if the downside risks remain with the official sector or if the money comes solely on the strength of a pledge of security.

Private Contingent Credit Lines

Another approach to obtaining crisis liquidity is to buy the liquidity in advance of a crisis, a form of *ex ante* insurance. Countries can buy the right to borrow from a group of banks in the event of trouble. The particular details of a contingent credit line (CCL) can vary, but the easiest CCL to understand gives a government the right to borrow a defined amount at a fixed interest rate from a group of banks at a time and place of the government’s choosing. The banks receive a fee in return. CCLs can be thought of as a substitute for reserves. Instead of holding reserves “on balance sheet,” CCLs provide “off balance sheet” reserves. The fee the banks charge can be compared with the cost of holding reserves—typically the difference between the country’s cost of funds and the risk-free interest rate it earns on the reserve holdings.

Unfortunately, the actual experience with private CCLs has been dismal, and such facilities hardly offer a viable substitute for official lending. Back in 1997, three countries—Indonesia, Mexico, and Argentina—had access to private CCLs. All three countries eventually drew on their credit lines, and in no case was the experience a happy one for the country or for its bankers.

- During its 1997 crisis, Indonesia drew on a series of private CCLs that it had arranged with a group of largely Japanese banks. But the resources the private credit lines provided were too small to stop the stampede to the exits and thus failed to help Indonesia ward off its crisis. As these credit lines have come due, Indonesia has generally rescheduled the maturing principal, given its precarious finances.
- Mexico drew on its facility in 1998. The banks were eager to get the fees during the emerging-market financing boom in 1996 and 1997, and Mexico bought the right to borrow at a rate that proved attractive when spreads rose across the board after the Russian default. But when Mexico drew on its facility, the banks cried foul because it was able to borrow at a rate well below the prevailing market rate, and the banks that marked to market had to book losses. The banks subsequently concluded that it was too risky to offer a country the option of borrowing at a fixed price and that any subsequent facility should carry a variable interest rate—making the facility less attractive to the country.
- Argentina’s credit line was intended to provide liquidity to the banking system rather than to help the sovereign raise money. Argentina’s central bank bought the right to sell (with a promise to repurchase) the banking system’s holdings of Argentina’s international bonds in return for cash. However, this facility failed to work as designed when Argentina’s banking system experienced severe stress in 2001. Argentina feared that drawing on the facility would trigger the bank run the facility was meant to deter. The banks were quite keen to get out of this commitment as Argentina’s finances deteriorated. When Argentina’s megaswap retired many of the bonds that were eligible to be “repoed” for cash, it effectively reduced the size of the facility. In the end, the credit line was too small to provide the sums Argentina needed. Argentina did draw on the credit line in September 2001, but it opted not to obtain the maximum possible sum. It obtained \$1.5 billion from private creditors and an additional \$1 billion from World Bank and Inter-American Development Bank enhancements that were part of the facility.

The amount of additional financing that these facilities provide in a crisis is hard to assess: The banks will take steps to hedge the risks associated with their commitment to lend to the crisis country. Some hedges—like shorting the country’s external debt—put pressure on secondary-market prices but do not directly result in pressure on the country’s reserves. Other potential hedges, such as reducing the local exposure of the banks’ affiliates in the debtor country, can put pressure on the country’s reserves. One virtue of the official sector is that it does not seek to hedge its crisis lending and truly provides net new financing.

Rollover Options

Another proposal seeks to make a standstill less costly by embedding in the debt contract an option to roll over maturing foreign-currency payments. The universal debt rollover options at penalty rates (UDROPs) that Willem Buiter and Anne Sibert (1999) proposed would give the debtor the ability to roll over maturing foreign-currency debts at a penalty rate defined in the contract. All foreign currency-denominated debt contracts, whether domestic or external, public or private, would need to contain such options. In the event of a rush to the exits and other self-fulfilling runs, such an option might prevent bad equilibria from ever occurring in the first place. Also if the debtor invoked the option, the cooling off period could provide the debtor time to convince creditors that the country's problems are addressed and that they should not decide to exit when the option expires. The debtor would also receive six months of protection from litigation. In Buiter and Sibert's proposal, the option would be exercised at the sole discretion of the individual debtor. Peter Kenen (2001) has proposed that the rollover options should be written to give the country's government or the central bank the ability to activate them, including those in private debt contracts. This would assure that the rollover option was only exercised in a coordinated effort to resolve a systemic crisis.

Rollover options have obvious appeal: The global financial system would be safer if more debtors bought more protection against the risk of a run, whether by paying more to borrow for longer terms or by buying options that give the debtor the contractual right to roll over a claim at a penalty rate. However, it is unrealistic to think that rollover options alone would make a broad standstill an attractive substitute for official lending.

A "contractualized" comprehensive payments standstill is still a comprehensive payments standstill, with all its downsides. The contractual right to defer payments on foreign currency-denominated debts won't stop a run out of the domestic currency or the domestic banking system, won't define the policies that the country needs to take in the interim, and won't prevent creditors holding foreign currency-denominated claims from running the moment the "contractual" standstill ends. One country's decision to invoke its rollover option could lead to a run out of other risky countries. Contractualizing the standstill does avoid the risk of litigation, but legal risks are typically the least of the debtor's concerns (see chapter 8). Rollover options might make the whole process less disruptive, more orderly, and generally less risky but probably not by that much.

Moreover, rollover options seem unlikely to ever be made truly universal. Even if—a big if—regulation in the international financial centers could assure that all cross-border lending carried such provisions, it is not at all obvious how such provisions could be inserted into all domestic debt contracts. Yet domestic debts denominated in foreign currency are often as important a source of difficulty as international debts, and regulators in

the major international financial system have no way to force sovereign countries to include such provisions in their domestic debts. The options would be needed not only in the government's domestic foreign currency-denominated debt but also, presumably, in foreign currency-denominated domestic bank deposits.

In our view, the early proponents of rollover options aimed too high. It makes more sense to insert rollover options into cross-border, interbank credits than into all foreign-currency debts in order to make a comprehensive standstill less disruptive. The goal of such rollover options would have to be narrower: They would likely do little more than provide an organized framework for the crisis country's government, the borrowing banks, and the creditor banks to negotiate a formal rescheduling. Suppose a country like Korea had included such provisions in its cross-border debt. It could have invoked the rollover options in December 1997. This would have avoided the need for the official sector to play as active a role as it did in encouraging the banks that lent to Korea to participate in its coordinated rollover arrangement. A "cooling-off" period would not have solved Korea's crisis on its own but might have provided the time Korea needed to negotiate a formal rescheduling.

Rollover options could play this role if they were in all interbank claims on the crisis country and, as Kenen suggests, if the central bank could exercise the rollover option in a crisis. This would deal with a real problem in the international financial system—the difficulty of getting external bank creditors to roll over their claims in a crisis and the resulting pressure for the government to offer an across-the-board guarantee at the first sign of serious trouble.

However, the difficulties in putting such provisions in just interbank contracts should not be underestimated. The right to defer payments unilaterally is a much more profound change in a contract than the ability to amend a contract's financial terms through a supermajority vote. Putting clauses into bonds governed by New York law seems to have hardly affected the sovereign bond market, but rollover options clearly would change the interbank market. The length of the rollover effectively becomes the minimum maturity of any debt contract. A very small difference exists between a six-month claim with the option to be rolled over for another six months and a one-year claim, apart from subtle asset pricing differences associated with the value of an option rather than an obligation. Debtors and creditors often have good reason to prefer short-term claims (Jeanne 1999). Attempts to use regulation to lengthen maturities "forcibly" will lead to a shortening of the original maturity of the debt, a higher price, a reduction in the amount of lending available to emerging-market debtors, or all three. Lenders would no doubt have stronger incentives to pull their loans out early, before the rollover option was invoked.

Inserting such provisions into cross-border debt contracts would require a serious, concerted regulatory push. Such rollover options could be introduced either from the creditor's side—as a result of a coordinated push from G-10 regulators—or from the borrower's side. Both raise real difficulties. Borrowing-country regulators tend to be loath to introduce provisions that make it harder for their local banks to access international markets. G-10 regulators would worry that the expanded use of rollover options would make it harder for the banks they regulate to protect their own financial health by pulling out quickly, even if they were good for the system.³⁶

It also would be necessary to decide if such options needed to be included in cross-border bank credits among banks located in advanced economies or just in credit extended to counterparties in emerging economies. Putting the options only in debt to emerging economies requires a consensus definition of an emerging economy and risks introducing a regulatory discontinuity in the market. The impact of putting such options in all cross-border debt might be small if individual banks, not the crisis country's central bank, exercised such options. Markets would assume that such options would be unlikely to be used for credits among banks in advanced economies.

Realistically, the official sector is unlikely to be willing to make an effort for a change that, at the end of the day, offers only a partial solution to a country's liquidity problems. The official sector will then have to rely on ad hoc attempts to convince cross-border bank creditors to roll over their claims on the crisis country if the official sector does not make sufficient liquidity available to stop a cross-border run.

Financing the IMF Through a Tax on Cross-Border Exposure

Edwin Truman (2001) has suggested a different way of easing the trade-off between IMF liquidity support and a private debt restructuring or a standstill: augmenting the IMF's current resources through a new tax on all cross-border financial exposure.³⁷ The debtors and creditors that would benefit from the expanded IMF liquidity insurance would, in a sense, pre-pay for this protection. Put differently, the official sector should have access to more resources—even after the IMF's 1998 quota increase—to “help backstop cross-border finance in times of crisis,” but the resources should be raised by a targeted tax on the “beneficiaries” of IMF lending.

36. A host of additional technical difficulties would also need to be overcome. What constitutes a cross-border credit? Should such options be included just in cross-border credits among banks or also in credits extended to finance companies or even standard firms?

37. Formally, Truman proposed the creation of an international financial stability fund (IFSF). The IFSF would be a revolving trust fund administered by the IMF. The disbursement of loans from the trust fund would be linked to IMF-supported adjustment programs.

Some of the details of Truman's proposal can be questioned. Truman imposes a small tax on all cross-border exposure, including cross-border lending between industrial countries. Such borrowers and lenders do not benefit as directly from IMF liquidity protection as do emerging-market borrowers and lenders, though they benefit indirectly when the IMF intervenes to avert emerging-market crises that could give rise to systemic crises. Truman also does not tax domestic borrowing and lending denominated in foreign currency. However, as we have argued, both foreign currency-denominated domestic bank deposits and foreign currency-denominated domestic government debt can give rise to substantial pressure on an emerging economy's reserves. IMF loans frequently have been used to meet the financing needs created when domestic bank depositors want to pull out of the domestic banking system and move their funds abroad, yet domestic depositors are not being asked to pay the tax that helps augment the IMF's lending capacity.

Politics, though, is the biggest obstacle to increasing the amount the IMF could lend by imposing a user fee on global finance. Countries—the United States in particular—are unlikely to agree on imposing a global tax to finance a multilateral financial institution. The power to raise funds through taxation is a power that sovereign states have guarded jealously. National governments prefer to keep multilateral institutions on a short leash and financially dependent on national governments. Truman's proposal implies the existence of a global supranational authority with a willingness to pay global taxes to support multilateral financial institutions that provide global public goods. Such a global authority does not exist today.

Intervening to Support the Bond Market, Not Crisis Countries

Classic IMF lending provides financing directly to the crisis country. A number of proposals have been made to use official financing not to lend directly to the country but rather to buy in the secondary market either the country's own debt or the debt of other emerging economies. These proposals typically are designed to limit asset-market contagion, as a crisis in one emerging market often leads to a sharp fall in the market value of the financial assets of other emerging markets.

Guillermo Calvo (2002) has proposed using official funds during a panic to smooth out the excessive overshooting of the price of a broad index of emerging-market debt. A crisis in one country can trigger a contagious fall in the price of the long-term debt of other emerging-market borrowers, leading to sharp increases in the borrowing costs of emerging markets that need to finance current account and fiscal deficit, refinance existing debt, or both. However, this proposal has many shortcomings:

- First, experience with most price-stabilization schemes—be it currencies or commodity prices—is not encouraging. If the fund were to

keep the price of emerging-market debt above its medium-term equilibrium value, then this fund would lose money and eventually go bankrupt (like most commodity-stabilization schemes).

- Second, the fund would purchase the debt of all the countries that are part of an emerging-market debt index and consequently, indirectly support countries that deserve support (victims of contagion) and those that don't (i.e., those whose spreads have rationally increased because of changes in the market's perceptions of their fundamentals). The fund would provide support to those countries that are robust enough to survive without any assistance, to those that are beyond the point of no return but whose debt remains in an index, and to those where financing might make a difference.
- Third, supporting countries based on their weight in a bond index favors those that have financed themselves by issuing international sovereign bonds relative to those that have done so in other ways (bank lending and foreign direct investment). There is no reason to believe that countries that rely heavily on international bonds are particularly deserving of support.
- Fourth, supporting the secondary-market price of bonds does not actually provide any financing to emerging economies. Emerging economies benefit only indirectly. The large war chest that would be needed to intervene heavily to support a sovereign bond index almost certainly would generate more bang per buck if it were used to lend directly to crisis countries.

Lerrick and Meltzer (2001) have suggested that the official sector should intervene to support the secondary-market price of the debt of the crisis country—buying the debt at its fundamental value—rather than to support a broad emerging-market index. Their basic motivation, however, is similar: Supporting the secondary-market price of the crisis country's debt helps avoid the contagion generated when large falls in the secondary-market price of a major debtor disrupts the broader debt market.³⁸ Lerrick and Meltzer argue that their proposal would both reduce the risk of contagion from prolonged undershooting in the market price of the crisis country's debt and help to reduce the debt of insolvent sovereign debtors.

However, the idea of spending large amounts of official funds to prop up the price of a crisis country's sovereign debt is far-fetched at best and

38. Proponents of the efficient markets hypothesis would argue that the distress of a creditor, absent any information indicating weakness in the debtor, should not lead to a substantial change in asset prices, as other investors should step in to buy the asset. However, other investors may have difficulty determining whether the fall in prices reflects the fact that some investors have access to new, private information about the fundamentals of other countries or that it is a bargain because a leveraged investor has to unload its portfolio.

outright harmful at worst. Buying debt in the secondary market provides a buyer for investors who cannot sell their bonds in the market but does not provide new foreign-currency reserves to the crisis country. Yet volatility in the secondary-market price of a country's long-term debt is a bigger problem for investors than for the country. The real problem for a country comes when it runs out of cash to pay maturing claims: A crisis country needs access to foreign currency, rather than a slightly higher secondary-market price for its long-term debt.

Lerrick and Meltzer's proposal also exposes the official sector to much larger risks than the current practice of lending directly to the crisis country. If the official sector offers to buy the crisis country's debt at too high a price, it could end up spending far more buying debt in the secondary market than it now lends to the crisis country. The authors claim that the official sector could offer to buy bonds at a price that is low enough to limit the risk to the official sector yet high enough to ensure that falls in the price of the crisis countries' bonds would not trigger widespread contagion. Reality may be quite different. Figuring out the fundamental value of the debt of a distressed sovereign is hardly an easy task. The observed volatility in the market price of sovereign bonds reflects the fundamental difficulties in finding the correct price of such debt as much as the tendency of markets to overshoot. For example, Lerrick and Meltzer suggested a floor of 60 cents on the dollar for Argentina's international sovereign bonds. Consequently, the IMF might have spent up to \$54 billion to buy Argentina's \$90 billion or so in outstanding international sovereign bonds—bonds that the market has priced between 25 and 30 cents after Argentina's default. These prices suggest that the official sector would have bought assets worth between \$30 billion and \$36 billion for \$54 billion, while investors whose claims, after default, were worth 30 cents on the dollar would have sold them to the IMF for 60 cents on the dollar, a net gain of \$20 billion plus. This would have been the mother of all bailouts. The distortions associated with buying investors out at a generous price would be much larger than those associated with the \$13 billion that the IMF actually provided to Argentina.³⁹

Paradoxically, implementation of this proposal risks providing the biggest bailouts to insolvent—rather than illiquid—countries. The official sec-

39. Lerrick and Meltzer's (2001, 4) argument that the IMF faced little risk even if all investors had exercised their option to sell at 60 cents on the dollar—"the IMF group would hold \$90 billion in claims as security to \$54 billion in loans that would be redeemed in a short time frame by the new creditworthy Argentine economy"—was reckless. How would Argentina repay "in a short time frame" \$54 billion in loans after it had already exhausted most of its reserves? How could defaulted bonds now worth as little as \$30 billion (a price that reflects the market's current assessment of Argentina's capacity to pay) be used to repay a debt of \$54 billion? Would the IMF renegotiate the bonds it held as security after the default, effectively determining the country's future debt burden, and then try to sell the resulting new bonds onto the market? Or would the IMF agree to retire the \$90 billion in bonded debt in exchange for Argentina paying the \$54 billion in loans?

tor is likely to end up with the country's debt only if it sets the price too high—for example, when it overestimates the country's underlying solvency. The authors' goal is to eliminate the moral hazard associated with traditional IMF bailouts, but their proposal risks creating a monster of much greater moral hazard proportions.

The desire to come up with alternatives to large bailouts—or risky standstills—in liquidity crises is understandable. Unfortunately, most of the proposed solutions are likely to be ineffective. Some would be altogether pernicious.

What Is the Right Policy?

Large official rescue packages or some form of standstill and debt re-scheduling do not have a true alternative. Private bailouts do not exist for good reasons. Indeed, modern risk management tools probably have made it less likely that the large banks will ever lend into a crisis.⁴⁰ Guarantees are typically a less transparent and effective way of providing a bailout than a direct official loan with conditionality. Voluntary debt swaps at high rates during crises worsen debt sustainability, even when enhanced with official resources. Contractualizing standstills with roll-over options might help but does not change the fact that the country has had to invoke its standstill clause. Supporting the secondary-market price of emerging-market debt rather than supporting the country is an inefficient and wasteful—and possibly very risky—use of official funds. The core policy choice is likely to remain one among the provision of large amounts of official resources to help the country meet a surge in foreign-currency demand, a coercive restructuring that limits the rollover of private claims, and a combination of financing and steps to lock in some sets of private-sector creditors.

We do not believe that a single approach makes sense for all crises. Managing crises effectively means trading off different risks. The closer a crisis to a clear illiquidity case, the greater the benefits of avoiding the economic costs associated with a standstill and the smaller the risk of official lending generating substantial moral hazard. If the IMF and the G-7 are willing to put enough money on the table for “catalytic” official financing to have a realistic chance of working, then the risk of official lending may be smaller than the risk of seeking a restructuring triggering a broader run. A comprehensive standstill would not have provided the right solution in Mexico in 1995 or in Brazil in 1999.

Proponents of standstills often seem more interested in limiting official financing than in offering the country facing a liquidity shortage a credi-

40. International banks reduced exposure to Argentina during 2001 and to Brazil before its 2002 elections.

ble path through the crisis. A standstill offers a solution to a liquidity problem only if it is possible to specify what set of claims will be caught in the standstill, how the country can exit the standstill, and how to manage the risk of the standstill leading the crisis to snowball. A limited standstill risks spooking other investors and broadening the run. Pre-emptively freezing all payments shuts down the financial system and much of the private economy.

At the same time, the right approach is not always to provide large amounts of official financing in the absence of any private debt restructuring. The official sector has to be able to distinguish between temporary and permanent problems and to be willing to deny “catalytic” financing to countries where there is a significant risk that the problem is not just a temporary liquidity shortage. The official sector, though, has tended to do the opposite and to think that more Mexican-style liquidity crises are out there than there really are. The IMF’s principals—the G-7 and other countries that provide most of the IMF’s usable resources—have political, geostrategic, military, and financial interests that create pressure for bailouts that avoid, or at last postpone, nasty crises in geopolitical allies and systemically important countries. Their agents—the IMF’s management and staff—often have a similar bias toward treating large cases as liquidity cases, both because the IMF is at times “captive” to the wishes of client countries and because the IMF itself does not want to be blamed for forcing a country into a debt restructuring.

There are cases where neither a full bailout of all creditors with claims coming due is appropriate nor immediate debt reduction is the right approach. Many countries face pressure on their reserves that stem in part from concerns that overall debt levels have increased to the point where there are substantial questions about the country’s solvency, even though the country may not be insolvent if it can deliver the needed policy effort. These countries have a liquidity problem, but they also typically need to meet their liquidity needs with medium-term rather than short-term financing. These countries will need to restructure some of their debts. Such a restructuring will have a better chance of working if it is combined with official lending, which can limit the risk of restructuring one set of claims triggering secondary runs that will immediately push the country into insolvency. This approach was followed in Ukraine and more recently in Uruguay—and might have been tried in Argentina at the end of 2000 or early in 2001.

These preferences imply that the official sector’s role should vary in different crises. But if its response varies in ways that the markets cannot predict or understand, then official policy action will be a source of uncertainty in the market. Therefore, the best way of addressing this risk is to strive to respond similarly to similar kinds of crises, not to insist that the official sector respond to different crises in the same way.