Blueprint for an International Lender of Last Resort

Adam Lerrick
*Carnegie Mellon University, alerrick@andrew.cmu.edu*

Allan H. Meltzer
*Carnegie Mellon University, am05@andrew.cmu.edu*

Follow this and additional works at: [http://repository.cmu.edu/tepper](http://repository.cmu.edu/tepper)

Part of the Economic Policy Commons, and the Industrial Organization Commons

**Published In**
Blueprint for an International Lender of Last Resort

by

Adam Lerrick*

and

Allan H. Meltzer**

The growing size and frequency of international financial disturbances and the rising cost of efforts to restore stability have reopened interest in international financial reform. Increasingly, attention has turned to the design of an international lender of last resort, LOLR, usually conceived as an international institution capable of performing services similar to those described by Bagehot (1873) for domestic central banks.\(^1\)

The argument for a lender of last resort is one of market failure. If markets always function, there is no need for official intervention. Arbitrage by the private sector will provide all necessary support. But there are times when markets do not operate smoothly, either because the liquidity may not be sufficient to prevent a collapse of asset prices or because investors may fear losses even if prices are below rational value.

Our earlier effort as part of the International Financial Institution Advisory Commission (IFIAC) proposed a quasi-lender of last resort recognizing that no international institution had, or was likely to receive, authority to issue the unlimited quantities of money typically regarded as a prerequisite for service as LOLR.\(^2\) The Commission used the word *quasi* to make this important distinction.

---

* Carnegie Mellon University.
** Carnegie Mellon University and the American Enterprise Institute.

The authors gratefully acknowledge comments and discussions of Lee Buchheit, Charles Calomiris, James Haskel, Bennett McCallum, Bernardo Paasche, Steven Schwartz, Anna Schwartz, Sanjay Srivastava, Chris Telmer, Xavier Bonnet, Doris Grimm, Stephan Litschig, Mads Toftegaard Madsen, Jan Willem van den Wall Bake and Mohamed El-Erian, Abigail McKenna, Jay Newman and other members of the Emerging Markets Creditors Association.

An international LOLR differs from its domestic counterpart in another way. A domestic monetary authority creates reserves or base money in its own currency. It satisfies a demand for liquidity if markets are illiquid, as in the banking crises described by Bagehot, and perhaps in the 1987 stock market decline and at other times. The analogous role of an international lender of last resort would be to provide foreign exchange. Again, most of the literature recognizes that countries are unwilling to vest this central banking function in an international agency (Eichengreen (1999), Rogoff (1999)).

This paper proposes a solution to the problem of the lender of last resort in the context of sovereign government insolvency. The proposal does not require unlimited amounts of money or the ability to create foreign exchange by an international financial institution. Indeed, if the system functions as outlined, the international LOLR will neither lend nor spend.

The goal is the creation of temporary guaranteed liquidity for the defaulted debt of the crisis country that will remedy the market failure, preclude panic and permit the orderly restructuring of the government’s obligations. The guarantee of liquidity creates a market in the defaulted debt at a price far above the levels observed in previous crises without the disbursement of official funds.

Section I sketches the present system and the nature of the problem. Section II presents our proposal for a quasi LOLR. Section III discusses some concerns.

I. The Current System

In the last seven years, international financial institutions have committed approximately $250 billion dollars to sovereign governments to stave off or mitigate financial crises. With the exception of Russia, where $16 billion of support quickly proved inadequate, lenders have received all payments of principal and interest in full and

---

2 Fischer (1999) argues that the IMF could fulfill the LOLR function without authority to create money. The IFIAC proposed that the IMF would borrow in developed country capital markets to obtain the necessary resources.

3 Lerrick and Meltzer (2001) provides a sketch of the proposal.
on schedule on sovereign loans to major emerging market countries during these years.\(^4\) Though most of the debt has been repaid, a quarter trillion dollars in risk was transferred from private sector balance sheets to official ledgers.

Much of the lending to emerging countries takes the form of short and medium term notes and credits priced at a spread above U.S. Treasury or Eurodollar rates. Lenders receive a risk premium, often 10 or 15 percentage points, but as much as 50\% per annum in the case of Russian bonds. When a bailout occurs, the emerging market country undergoes a recession, often a deep one, but the holder is paid in full. In Argentina in 2001, investors received additional payments for renegotiating their claims at market prices.

Repeated intervention of this kind creates moral hazard and subverts the incentives that are critical for efficient markets and optimal resource allocation. Lenders have learned that there is an implicit IMF guarantee for large, emerging market sovereign borrowers and that a risk premium can be collected while avoiding the risk. Borrowers have learned that promises of reform can be made and broken at low cost and that every $10 billion of IMF loans yields $1 billion each year in interest subsidies.

The source of this problem is familiar from domestic banking policy. Faced with a choice between allowing a bank to fail and providing support, policy officials offer support. The typical rationale, particularly in the case of a large bank, is that there is a risk of systemic crisis. The probability of systemic crisis may be small, but the potential loss is large, so the policymaker prefers bailout to risk of disaster.

If "borrower" replaces bank in the previous paragraph, the same explanation applies to crises in emerging market countries. The IMF and the G-7 governments face the choice between default and some form of bailout. Although many, both in government and in the private sector, have urged that investors bear the cost of bad lending decisions, as noted earlier, holders rarely receive less than payment in full on

\(^{4}\) Some small countries, notably Ecuador in 1999, restructured debts and imposed losses on holders. Investors that sell their holdings in the secondary market may suffer losses but these are offset by the profits of their counter-party purchasers when the debt is paid in full.
emerging sovereign debt. Policymakers have preferred to avoid possible chaos by lending freely at subsidized interest rates.

II. An International Quasi LOLR

Policy options are not limited to a choice between the two extremes of a bailout or the risk of a systemic crisis. In this section, we propose a type of international lender of last resort that greatly reduces, and perhaps eliminates, market breakdown or crisis while avoiding a bailout. Lenders bear the risks that they undertake thereby reducing moral hazard dramatically. The international financial system is insulated from "contagion" that spreads crisis to other countries. Sovereign debt burdens are reduced to sustainable levels. The call on IMF resources is minimal.

Suppose that at time $t$, an emerging market government has an unsustainable foreign currency debt burden such that the present value of future resources available to service the debt is less than that required by the contracts. As creditors recognize the country's position, they refuse new loans, sell existing debt and fail to renew expiring contracts. The central bank's reserves fall, increasing the risk of default. Bond prices fall sharply under selling pressure as creditors seek to liquidate holdings. If default is not forestalled, it is feared that panic conditions in the country's debt market will spill over to the markets of principal trading partners, other emerging nations, and unrelated asset classes.

Under current arrangements, the country borrows from the IMF at subsidized interest rates to obviate default. This reduces the debt service. The government uses the IMF loan to repay private sector creditors in full as obligations come due.

The alternative we propose requires the emerging market government to default on its debt. Without default, the debt cannot be restructured effectively. A voluntary

---

5 The country may also undertake reforms to raise expected future income, exports, and foreign exchange receipts. There is now a large literature describing this process. See the citations in footnote 1 above.

6 A variation of the IMF loan to retire maturing debts at 100% of face amount that would allow the country to benefit from any market discount from par value on existing claims would be a debt buy-back with official funds. An alternative to the direct transfer of debt from the private sector to official institutions would be an exchange of the crisis country’s debt for bonds guaranteed or collateralized by the official institutions. The economic and financial consequences of a debt repurchase and an exchange into credit-enhanced bonds are identical.
write-down is not feasible. When there is another option, no investor ever volunteers to take a loss.

When the debt burden is unsustainable, default is an unavoidable recognition of past errors of borrower and lender alike. It is a component of a necessary adjustment of obligations.  

At the time of default, the government of the debtor country makes three announcements simultaneously:

1. It has suspended all payments of principal and interest on foreign currency debt to the private sector.  
2. It offers to restructure the debt within a brief time period (say 3 months), and it has fixed a minimum restructured value (or maximum write-down). Negotiation between the debtor and its creditors during the restructuring period will set the final restructured value.  
3. It has entered into a LOLR agreement with the IMF under which the IMF establishes a stand-by line of credit to the government that allows any debt holder to sell its defaulted claims for a fixed cash price throughout the restructuring period. The announced official cash support price is set at a discount from the minimum restructured value that the country offers. The official cash bid expires at the end of the restructuring period.

Most emerging market debt carries cross-default clauses; default on a single issue triggers an event of default under all other issues by the borrower.  

Both internal and external. If the government maintains a currency board or other legally enforced fixed exchange rate system, domestic currency denominated debts should be included in the default and restructuring process. Under a floating or adjustable exchange rate, foreign currency is not needed to pay domestic currency debts. The default and restructuring would not include debt to official creditors.

The payment terms of the new bonds issued upon exchange in the restructuring would be set through an auction to have a market value equal to the restructured value announced.

The bonds offered in exchange for the defaulted debt could focus solely on modification of payment terms (principal amount, interest rate and maturity) or could include additional creditor protection in the form of stricter covenants, conditions of adherence to specific economic policies, etc… Any increased protection would be reflected in the value of the restructured bonds and hence their payment terms.

If the debt restructuring is not completed by the expiration of the announced period, in theory, the official floor of support could be extended. However, the reason the restructuring would not be completed is because creditors believe the defaulted claims have a value greater than the final restructured exchange value bid by the debtor. This is equal to or greater than the minimum restructured value and significantly
As proposed in the IFIAC Report, the IMF announces that it will lend at a rate in excess of its base lending rate, preferably at a penalty rate, to other emerging economies adversely affected by the disruption.

*Impact of the Official Cash Support Bid*

At the moment of announcement, prices of the country’s bonds would fall below the minimum restructured value but they would stabilize at a level above the official cash support bid. The LOLR’s support floor provides a minimum price below which bonds cannot fall. The price should be high enough to forestall the type of panic selling observed in the past but low enough to be unattractive to all but the most desperate bondholders. There is a trade-off. The lower the floor, the smaller is its stabilizing effect. The closer to the debt’s restructured value, the higher is the probability that investors will accept the official cash support bid.\(^\text{12}\)

The IMF-backed cash bid makes the defaulted bonds marketable collateral at a discount to their minimum restructured value during the restructuring. Because the IMF guarantees a minimum price below which the bonds cannot fall, private sector institutions will now lend against the bonds based, not on their intrinsic value, but upon the AAA on-demand cash value of the official support bid. Investors who prefer cash to the exchange for new securities will sell their bonds in the market. Buyers will use the IMF-backed cash bid on their bonds as collateral for borrowing to leverage their holdings and increase their returns. During the restructuring, the market price will be bounded from below by the IMF’s effective cash value guarantee and from above by the expected final restructured value of the bonds discounted from the exchange date at the appropriate risk adjusted interest rate.

\(^{12}\) The LOLR’s floor provides minimal stabilizing effect if the market value of the bonds before default greatly exceeds their restructured value. This could occur if, at the margin, the market anticipated a bailout that did not occur. This did not happen in Russia’s and Ecuador’s defaults. Bonds traded at substantial discounts to par value prior to default, but restructured values were only 20 to 30% below pre-default levels.
Suppose that $p$ is the par value of the country's bonds, $mrp$ is the minimum restructured value and $smrp$ is the official cash support bid. Both $mr$ and $s$ are proper fractions. Since $smrp$ is effectively guaranteed by the IMF while the country's exchange offer is outstanding, an arbitrage opportunity is present during the term of the offer. An arbitrageur can buy the bonds at a price above $smrp$, use the bonds as collateral for a bank loan, and make the exchange for bonds valued at or above $mrp$ at the end of the 90 day restructuring period. Banks would be willing to lend close to $smrp$, because the collateral could be sold for cash to the IMF facility at any time for this amount.

As an example suppose:

$$p = 100, \; mrp = 70 \; \text{and} \; smrp = 60$$

with a 95% loan to collateral value and a purchase price of 68.35 per bond, arbitrage yields an annualized return of 40% over a three-month restructuring period. Even without leverage, annualized returns would be 40% on a cost of 64, 32% on a cost of 65 and 25% on a cost of 66.\(^{13}\)

The IMF-backed official cash support bid creates a highly liquid market in the defaulted bonds. This prevents a large, temporary decline in the market price of the government’s debt and panic. It stabilizes the country's financial system by creating liquidity for holdings of government securities. With the market price of the bonds above the official cash support bid, the amount of funds advanced by the IMF will be extremely limited. (See Minimum Restructured Value and the Official Cash Support Bid and Demand for IMF Resources below).

**Structure of the IMF Loan**

Under its articles, the IMF cannot buy bonds, but it can extend loans to members. The official cash support bid would take the form of a collateralized loan from the IMF to the crisis government. A trustee would receive irrevocable instructions from the IMF and from the country to purchase any bonds offered at the official cash support price and to draw automatically on the IMF loan facility for payment. This creates an unconditional

\(^{13}\) The risk of a cancellation of the exchange will have negligible impact on arbitrage activity because the cause of the cancellation would be low investor participation in the exchange. This will only occur if the restructured value offered by the debtor is lower than the market value of the defaulted bonds. Arbitrageurs will then sell their holdings in the market for a price near this higher value.
AAA support obligation. The trustee would serve as collateral agent for the IMF and would hold the tendered bonds as security for the loan.

If any bondholders accept the official cash support bid and IMF funds are advanced, the country would agree to retire its debt to the IMF on a fixed repayment schedule and to dedicate one-half of the proceeds of all new borrowing to early redemption to ensure a rapid recycling of IMF resources. As the borrower repays the IMF loan, a proportionate share of the bonds held as security would be released and canceled. All gains from official purchases of the bonds at a discount to issue price and to their restructured value thereby accrue to the borrowing country.

The IMF loan would carry the Fund's traditional preferred creditor status and its highest interest rate under the Supplementary Reserve Facility. The repayment schedule would be designed to match the country's available resources. The country would be in a better position to service its IMF and other debt because the restructuring increases available resources by significantly reducing the debt stock. The debtor country would also gain from the subsidized interest rate on its debt to the IMF. This gain would be slight; if the LOLR system works properly, very little debt would be purchased under the official support facility.14

Conditionality serves no purpose in the proposed structure. The IMF, as creditor, is protected because creditworthiness has been restored. The debt has already been reduced to a sustainable level under conservative assumptions. Once bailouts are no longer an option, markets will enforce reform by refusing to lend additional funds, or raising rates, if a country does not follow sound policies. (See Minimum Restructured Value and the Official Cash Support Bid below.)

Minimum Restructured Value and the Official Cash Support Bid

Determining the minimum restructured value is the crucial element in the LOLR mechanism.15 The official cash support bid is set at a discount to the minimum

---

14 Provisions in the outstanding debt, such as restrictions on the purchase by the issuer of Brady bonds in default, and U.S. securities law requirements can be satisfied within existing IMF and capital market practices.

15 There are two prevailing market practices for the write-down of existing debts. The first involves a blanket fixed percentage reduction of the face value of all instruments regardless of maturity and interest
The discount could be predetermined in IMF policy as a fixed 80-85 percent of minimum restructured values. To set the minimum restructured value, the debtor, its financial advisors, and the IMF must establish a sustainable debt level and convince the private sector of the validity of the assumptions behind the projections and of the renewed creditworthiness of the borrower. If the minimum restructured value is deemed too high, investors will anticipate a repeat cycle of default and restructuring, fear that the restructured bonds will not maintain their value and sell into the official cash support bid.

The minimum restructured value is a summary measure of a set of assumptions and a macroeconomic model that generates projections of the debtor's future economic performance. Some of the variables are within the borrower's control (fiscal and monetary policy, labor laws, pension reform, financial system regulation, etc… ) while others are not (world economic growth, international interest rates, competitors' policies, etc… ). The model, with all its assumptions, should be disclosed to creditors at the beginning of the process, when the debtor announces default, the minimum restructured value and the official floor of support.

Overly optimistic projections and unsustainable restructured values will be restrained by a set of new incentives. In a bailout, both the borrower and the IMF often exaggerate predictions of prosperity and reform to justify a continuing high debt level. Investors view these predictions skeptically. In a LOLR restructuring, both the borrower and the IMF would choose conservative values to warrant a substantial write-down, to minimize the probability of creditors selling to the official floor of support, and to avoid the high cost to the economy of another default. Investors have an incentive to propose
more positive projections to negotiate a higher restructured value without driving this value to a clearly unsustainable level.

The IMF would not participate in negotiations between the debtor and investors, nor would it set market prices. It would approve the initial minimum restructured value offered to prevent the debtor from seeking an unjustified write-down. Its key responsibilities would be to set the official cash floor and to confirm the minimum restructured value that macroeconomic analysis indicates the debtor can support under reasonable assumptions. The IMF would not provide support if it deems the minimum restructured value too high and the proposed level of the debt unsustainable.

*Contribution of the International Lender of Last Resort*

The proposed LOLR differs from its domestic counterpart. A domestic monetary authority lends freely directly to creditors in a period of crisis. If the monetary authority follows Bagehot's much quoted advice, it makes large loans at penalty rates. The proposed international LOLR creates a ready market of private sector lenders for the crisis country’s creditors. The liquidity created by the official floor allows the market to function. The official support bid substitutes a guarantee of cash value for a classic discount window loan.

In a perfectly functioning market, there is no need for the official floor. Private sector institutions would accept the defaulted, but soon to be restructured, bonds as collateral at standard over-collateralization rates. A market value equal to the discounted value of the debtor's restructured bid would prevail. However, the goal is a mechanism for times when markets fail to operate smoothly.

The international LOLR supports the debtor's restructuring and prevents contagion. It creates an orderly framework where negotiations between a borrower and its creditors can proceed in good faith and where write-downs and restructuring can

---

17 The debtor has no incentive to allow the restructuring period to expire without a resolution because it cannot force its creditors to accept the lower official cash support bid. Instead, they would choose the significantly higher restructured value. Even the minimum restructured value offered at the outset is 15-20% above the official cash support bid.
proceed without panic. If the minimum restructured value is set correctly, the IMF makes few loans, typically none. The following section takes up this critical point.

III. Concerns

Proposals for an international LOLR are often criticized for requiring unlimited amounts of credit that the IMF is neither empowered to create nor likely to obtain from its members (inter alia Eichengreen (1999) and Rogoff (1999)). Other possible problems arise because some creditors might refuse the restructuring offer---the holdout problem---or the LOLR might increase moral hazard. On a different dimension, debt restructurings and write-downs could increase interest rates for all emerging market countries. This section considers these concerns.

Demand for IMF Resources

The amount of actual resources provided by the IMF depends on the perceived sustainability of the country's debt service after restructuring. If the government has avoided overly optimistic assumptions about future growth of output and exports, and restructured values are credible, the demand for IMF resources will be minimal. With a firm floor in place, arbitrage will generate private sector demand during the restructuring process at prices substantially above the official cash support bid. (See Impact of the Official Cash Support Bid above.)

The IMF's risk is limited to cataclysmic events during the short restructuring period that reduce the country's ability to pay dramatically. Investors will sell to the IMF-backed bid only if such events reduce the market price below the official cash support bid. The country's capacity to service debt must fall 15-20% below the initial conservative estimate of its sustainable debt (minimum restructured value) since the official cash support bid is set at this level. Because any debt purchases under the IMF facility will be made at a 30-50% discount from par value, the amount of potential funds required would be no more than two or three current bailout packages. The amount of actual funds provided would be much less.\footnote{If the restructured value is credible, a failed or cancelled exchange does not pose a risk of a substantial draw on IMF funds. Investors will only refuse the exchange if the restructured value bid by the debtor is...}
The official sector's maximum exposure, if there is no arbitrage and all creditors accept the support bid, is the official cash support price times the amount of bonds outstanding. Under this scenario, the private sector would absorb the entire cost of the write-down, balanced out by the high returns that emerging markets offer. The crisis country would reduce its debt burden to a sustainable level. The IMF would hold a secure claim on a now creditworthy borrower that would have an obligation to dedicate half of the flow of new borrowing to early repayment of the loan.

This contrasts with the current bailout scenario where private investors do not bear any cost for their mistakes, the country often continues with an unsustainable burden, the possibility of a debt crisis is postponed, not eliminated, the IMF holds a mounting claim on a questionable borrower, and rollovers camouflage delinquent debt service. Here the intervention is final rather than piecemeal and temporary, as a series of rescue packages has proved to be.\textsuperscript{19}

Transition from a bailout environment to a market-restructuring framework may cause a short period of disruption as investors assess the new rules. The official sector must be prepared to provide sufficient resources to other sovereign borrowers in emerging markets that are sound but may suffer temporary liquidity shortages.

\textit{Protection from Holdout Creditors}

The combination of an effective restructuring plan and the unique status of a sovereign debtor whose international assets can be protected from attachment by creditors provides an effective substitute for international bankruptcy procedures. Even

\footnotesize
\begin{itemize}
\item lower than the market value of the defaulted bonds. Bondholders will sell in the market rather than to the official cash support bid that is at least 15-20\% below the rejected restructured value. The IMF is at risk of advancing funds if the country reneges on the exchange offer during the restructuring period. However, in this case, the repayment risk on the IMF loan is minimal because the debt will be written down 15-20\% below a conservative sustainable level.
\item In the unlikely circumstance that foreign currency denominated debts of the country’s private sector borrowers maturing during the short sovereign restructuring period exceed their access to foreign exchange resources and the international reserves of the central bank, a potential liquidity shortfall must be addressed if lenders refuse to roll over existing obligations. The IMF should provide an additional short-term liquidity facility in this event though the amount would be expected to be small given the short time period and the moratorium on all debt payments by the government. Once the sovereign restructuring is completed and creditworthiness is restored, foreign lenders will again extend credit to the country’s private sector.
\end{itemize}
so, a minority of creditors are certain to accumulate bonds at distressed prices when crisis threatens and attempt to disrupt the restructuring by "holding out" for preferential treatment of their claims. Though they cannot prevent the restructuring and cannot attach the sovereign debtor’s assets or payments made under new bonds if care is exercised, they rely on nuisance value to extract a windfall.

The official floor of support reduces substantially the incentives to hold out. It precludes excessive price declines. This both decreases the holdout's potential profits and increases its required investment dramatically. If the price of the defaulted bonds with a minimum restructured value of 70 only falls to 65, as opposed to 20 in a panic, the holdout's investment is more than tripled and its maximum total profit from extracting 100 (paid in full at face value) falls from 400% to 54% ignoring the significant collection costs. If the collection time horizon is two to three years, the potential annual return falls from 60-100% to 15-24%.

*Moral Hazard*

Official intervention reduces risk. However, when the public sector assumes a private sector credit risk, social and private costs diverge and moral hazard results. If a high return is offered without the attendant high risk, there will always be excess demand for the asset.

The official floor of support separates credit risk from the risk of panic-induced losses. Private lenders bear the cost of all asset price declines to a level substantially below the rational valuation of the bonds because the official cash floor is always set at a significant discount to sustainable debt levels. The risk that panic or irrational market behavior induces price declines unrelated to the debtor's risk is a social risk that is appropriately assumed by the official sector. Only a public institution can reduce this risk.

Investors, not the IMF, bear the cost of their bad lending decisions by writing down debt to sustainable levels. There is no official sector guarantee on borrower bonds. The LOLR sets the floor at the time of default at a discount to the price at which the debt becomes sustainable. The IMF does not assume any credit risk of debtors, only the appropriate social risk of panic-induced losses.
When investors make lending decisions, this risk is minimal. And so must be its impact on behavior. Without the prospect of a floor in a crisis, there is always a small probability of losses in excess of rational value, if holdings must be liquidated under temporary panic conditions. Fear of this scenario might curtail flows, but only marginally.

Does an officially sanctioned mechanism for the restructuring of liabilities encourage borrowers to default? No more than do the domestic bankruptcy codes that every developed nation decided long ago to adopt and that are being promoted as a structural prerequisite for emerging economies. Frivolous default cannot occur because the IMF will not provide a floor of support when debt levels are seen as sustainable. Repeated restructuring will eliminate access to capital markets.

The official floor of support reduces the potential gain from default. By eliminating excessive declines in the price of the government’s bonds, the official floor reduces the borrower’s leverage in the restructuring negotiation and its ability to extract the maximum write-down of its obligations.

When moral hazard is greatly reduced, there are net gains to the global system. The official sector steps back from its current role of guarantor of speculative capital to emerging economies and becomes a true lender of last resort that responds to market failure yet preserves market discipline. Capital would again differentiate credit risk and financing would flow at attractive rates to sound developing countries. Investors would be more cautious knowing that they bear the losses arising from bad judgment. Lenders would provide the discipline that is currently lacking by limiting debt to reasonably sustainable levels. Emerging governments would learn that only prudent policies and secure financial sectors gain access to resources for growth. Fewer crises would result.

**Effect on Market Interest Rates**

In the short term, market interest rates for emerging countries would rise because a subsidy would be eliminated. Once the market realizes that bailouts are over, and losses are possible, a rational downward adjustment in the prices of all emerging market debt would ensue to reflect the true (unsubsidized) risk. However, once countries realize...
that reform and sound policies are rewarded in the capital markets, interest rates for creditworthy borrowers would fall as has been the recent experience for Mexico.

**Conclusion**

Our proposal attempts to prevent panic and disruption without promoting future crises and instability by using market incentives and imposing private risks on private sector lenders. The mechanism is an international quasi lender of last resort. The rationale is the appropriate role of the official sector in addressing market failure.

A successful lender of last resort must meet two criteria: first, an absolute financial ability to cover any and all promises made and, second, a means of intervention that has minimal impact on market incentives. The classic Bagehot prescription to prevent widespread failures by arresting the primary causal failure is to lend freely on the basis of collateral that is marketable in the ordinary course of business. In the domestic context of a fractional reserve banking system that dominates the financial structure, this is executed through the discount mechanism of the central bank and by open market operations.

The official floor of support offered by the international LOLR is the functional equivalent of the classic discount window in an international capital market context where participants are not regulated and there is no relationship between the lender of last resort and investors. Valuing the borrower's debt at a significant discount to its conservative sustainable level is analogous to the Bagehot over-collateralization of securities marketable in the ordinary course of business.

The official floor of support provides a choice intermediate between a bailout and uncontrolled default and possible disruption. The floor reduces the risk of a collapse of financial markets with significant harm to third countries. It achieves these benefits at little cost to the IMF, thereby removing an externality. By offering guaranteed liquidity, the IMF creates a public good---a functioning market for defaulted debt in times of crisis. Generally, the market will clear at a price above the official cash support bid and the IMF will advance no funds.

The LOLR facility is one of three tools to be used by the official sector. It deals with the problem of contagion and market closing when an insolvent sovereign borrower
cannot service its debt under credible projections of economic and policy conditions and must restructure its liabilities. Illiquidity, where a solvent government does not have current assets, including its ability to borrow, to pay current debt service requires a different tool---liquidity facilities that address current debt service but not total debt stock adjustment. Proposals for responding to these issues include automatic lending tied to pre-conditions as suggested in the IFIAC Report or a more flexible IMF contingent credit line (CCL). The final tool of the official sector is structural adjustment loans to facilitate reform and minimize its real costs.

Appendix

Argentina: An Example

Argentina is the quintessence of what has become a recurring pattern in the international financial system---a developing nation that has accumulated a massive and unsustainable debt, fails to institute reforms to restore long-term solvency and holds the official sector hostage through an excessive 20-25% share of emerging market bonds.

Government debt outstanding to the private sector (net of collateral) is approximately $90 billion with a current market value of approximately 65% of face amount. Even if a credible program of reform were implemented, we estimate that reduction of the debt load to a sustainable level would require a write-down to approximately 60% of face value.

Constructive default to achieve this target would be based on an IMF-led stand-by debt purchase facility with a maximum value of $45 billion to guarantee a cash support price of 50% of face amount. (IMF: $28 billion; World Bank: $7 billion; Inter-American Development Bank: $7; Spain: $3 billion.)

For Argentina, in the extreme case where the entire debt to the private sector is repurchased under the IMF support facility, the full $45 billion of debt write-offs would be absorbed by investors, the government's total debt would be reduced by 35% and the IMF-led group would hold $90 billion in claims as security for $45 billion in loans that would be redeemed in a short time frame by the now creditworthy Argentine economy.
References


   *Cato Journal*, 17, 275-95.


Fischer, Stanley, (1999). "On the Need for an International Lender of Last Resort",
   *Journal of Economic Perspectives*, 13, 85-104.

Fratianni, Michele and John Pattison, (2001). "International Lender of Last Resort: A


   International Financial Institution Advisory Commission*, (Washington: Department of Treasury); referred to as "the IFIAC Report".

Jeanne, Olivier and Charles Wyplosz, (2000). "The International Lender of Last Resort:
   How Large is Large Enough?", mimeo.

   *Financial Times*, May 10, 17.


Sachs, Jeffrey, (1999). "International Lender of Last Resort" in Jane Little and Giovanni
   Oliver (eds.), *Rethinking the International Monetary System*, Federal Reserve
   Bank of Boston.

Willett, Thomas D., (2001). "Restructuring IMF Facilities to Separate Lender of Last
   Resort and Conditionality Programs," xeroxed Claremont McKenna College.