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International Bailouts, Moral Hazard, and Conditionality

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INTERNATIONAL BAILOUTS, MORAL HAZARD, AND CONDITIONALITY

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INTERNATIONAL BAILOUTS, MORAL HAZARD, AND CONDITIONALITY

Abstract

The large international bailouts of the 1990s have been criticized for different reasons, in particular for generating moral hazard at the expense of the global taxpayer. We argue in this paper that some of these concerns are exaggerated or misleading because international bailouts have no or very little cost to the international community and the global taxpayer. The problem, in our view, is rather to ensure that the international safety net is not used as an input into bad domestic policies. This may require a shift towards ex ante conditionality, in the sense that the availability and size of official crisis lending need to be conditional on government policies before the crisis.

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1. Introduction

The role of moral hazard in the international financial crises of the 1990s has been the subject of much debate following the Asian crisis. Reckless investment behavior in the boom phase was attributed, after the fact, to cronyism, financial opaqueness, deficient supervision, and the moral hazard resulting from government bailout garantees. In the bust phase, the international rescue packages arranged under the auspices of the IMF were used, among other things, to help domestic governments implement these bailout garantees. Consequently, the presence of international official lending may be a contributing cause of financial crises. Proposals to address this problem have included abolishing the IMF, breaking it up, making it more independent, lending only to countries that pre-qualify according to certain conditions, requiring collateral, limiting the size of official bail-outs and/or requiring private sector "bail-ins", and raising interest rates charged.[2]

The purpose of this paper is to delineate the potential responsibility of the international community in both generating and limiting the moral hazard induced by financial sector bailouts in emerging economies. Our focus is on understanding the role played by international crisis lending, rather than testing for the existence of moral hazard *per se* (see Box 1 for recent literature on that subject). We argue that this is a prerequisite for an informed policy discussion on how to avoid moral hazard. The debate about moral hazard potentially caused by international crisis lending often seems to ignore the fact that the international community does not directly bail out (nor, for that matter, supervise, or regulate) private bankers and creditors. Policies that generate or mitigate moral hazard—for example, the operation of financial safety nets, and financial regulation—are determined primarily at the *national* level. Consequently, understanding the international community's role in both creating and limiting moral hazard must focus on the mechanisms through which the international community influences national policies towards the financial sector, especially in times of crisis. In this paper, we seek to clarify these mechanisms, present some empirical evidence on their relative importance, and draw policy conclusions based on this evidence.

Two completely different channels through which international bail-outs can generate excessive moral hazard have been suggested in the debate following the 1997 Asian Crisis. First, it has been argued that international financial institutions were using the global taxpayer's money to subsidize cronyism and reckless investment behavior in emerging economies:

> "What really happens is that the U.S. ends up subsidizing the IMF's growing practice of making large loans at low interest rates to very risky economies ... and U.S.

[2] See Shultz, Simon and Wriston (1998), Schwartz (1998), Edwards (1998), Feldstein (1998), Eichengreen (1999, 2000), Council on Foreign Relations Task Force (1999), de Gregorio et al. (1999), International Financial Institutions Advisory Commission (2000) and Goldstein (2000b).

government money comes from taxpayers." (*Wall Street Journal* editorial column, April 23, 1998).

One conclusion of this paper is that this view is inconsistent with the available evidence on the repayment record on international official lending. We show that international bailouts do not allow receiving countries to transfer the cost of their crisis to the global taxpayer to any

Box 1: Empirical Evidence on Moral Hazard due to International Official Lending

Until very recently, there was almost no systematic evidence to support the view that international crisis lending creates significant moral hazard. Nunnenkamp (1999) presents some facts on the quantitative significance of IMF lending and concludes that, because of its relatively small scale, IMF lending cannot usually cause much moral hazard. Zhang (1999) shows that in the context of a regression of emerging bond market spreads on some country fundamentals and a proxy for international liquidity, a dummy variable for the post-Mexico crisis period exhibits a *positive* sign, contradicting the notion that the Mexican bail-out created moral hazard. Using daily data, Lane and Phillips (2000) attempt to test for moral hazard by examining market reactions to a large number of IMF-related policy announcements since 1995. In most cases, they do not find any significant reaction of bond spreads, although they acknowledge that this could be due to the fact that the events in question were often anticipated.

However, two recent studies offer stronger evidence consistence with the presence of moral hazard as a widespread phenomenon. Dell'Ariccia, Gödde and Zettelmeyer (2000) show that, controling for changes in fundamentals, the 1998 Russian crisis—which was notable for the *absence* of an IMF-led bail-out—was followed by significant, persistent increases both in the level of spreads for many emerging market countries and in the cross-sectional variance of spreads. The latter implies that after the crisis investors were paying more attention to cross-country differences in fundamentals than before, which could be intepreted as a consequence of reduced moral hazard. McBrady and Seasholes (2000) conduct an event study of the impact reactions of spreads to the decision of the Paris Club, in February of 1999, to require Pakistan to restructure its outstanding Eurobonds along with its official bilateral debt. Based on sovereign bond data for 41 countries, they find significant increases in daily spreads in response to the decision, in the order of 25-95 basis points.

There remains an interpretational problem with studies based on the reaction of bond spreads to official actions, which was pointed out by Mussa (1999) and Lane and Phillips (2000). To the extent that these studies find a significant reaction of bond spreads consistent with moral hazard, there is always an alternative interpretation: namely, that official lending, in addition to reducing the probability of default conditioning on an economic crisis, might reduce the probability and expected severity of the crisis itself. For example, in situations where self-fulfilling runs are possible, the presence of an international financial safety net might make crises less likely, and it might reduce the depth of recessions that reduce the chance that investors will be repaid. Thus, there may be economically beneficial effects of official crisis lending which do not constitute moral hazard, but are observationally equivalent in their effects on spreads. Disentangling these effects is an important task for future research.

significant extent. Redistribution takes place primarily *inside* the afflicted countries, and at the expense of the *domestic* taxpayer. However, as the critics of large international bailouts were quick to point out, this does not absolve the international community from its potential responsibility in generating moral hazard. It would simply mean that moral hazard is generated—if it is—at the expense of the domestic taxpayer in emerging economies:

> "The main influences of the IMF and the U.S. government in the 1990s have been to aggravate the [moral hazard problem by lending] legitimacy to (and thus facilitate) domestic bailouts by providing conditions that call for taxation of the domestic middle class to repay the bridge loans from the IMF and the U.S. government." (Calomiris, 1998).

In this view, international crisis lending caused moral hazard indirectly, by providing the (temporary) financing that enabled domestic bail-outs. However, this raises a delicate question: If the costs of the crisis are ultimately borne by the domestic taxpayer, why did domestic governments not attempt to mitigate moral hazard in the period leading up to the crisis, through better banking and financial supervision, regulation and better targeted safety nets? One possible answer is that governments make mistakes, from the failure to perceive the risk of crisis during the boom phase to a lack of domestic expertise in banking regulation and supervision. Another answer is that governments may have been insufficiently concerned with the long-term interest of the average domestic taxpayer. Cronyism in the period leading up to the crises suggests that domestic policy in the boom may have been tailored more to the special interests who could take advantage of the implicit bailout guarantee. This view is supported by a growing empirical literature which suggests that special interests and rent-seeking are a significant determinant of domestic regulatory policies (see Box 2).

If the problem is not the direct creation of moral hazard through subsidized loans, but rather that the international community plays the role of accomplice in bad domestic policies, what is the appropriate policy response? The answer is to make it instead an accomplice in the implementation of *good* domestic policies. We argue in this paper that this requires shifting the weight of conditionality from traditional conditionality *ex post*, as an accompanying element of official lending after the crisis, to conditionality *ex ante*, in the sense that the availability and size of official lending need to be conditional on government policies *before* the crisis. The international community's lending policies must create a link between domestic efforts at preventing crises ex ante and the extent of insurance ex post—just like private insurance contracts provide broader coverage to policyholders that reduce their risks ex ante. The IMF has already moved into this direction by establishing a new facility, the Contingent Credit Line (CCL), which provides for exceptional access to IMF resources for countries that qualify ex ante on the basis of sound policies and progress toward meeting internationally accepted standards. In our conclusion, we discuss some problems involved in making further progress in this direction, as well as possible solutions.

Box 2. The Political Economy of Financial Regulation and Financial Crises

The political economy determinants of financial sector policies have been an extensive area of empirical research since at least the 1970s. Much of this literature has focused on the determinants of financial regulation in industrialized countries. A classic paper is the Romer and Weingast (1991) analysis of regulatory responses to the U.S. Savings and Loans crisis, which argues that legislative delays and regulatory forbearance, which exacerbated the extent of the crisis, were a result of pressure from two groups: healthy S&Ls, which opposed an early recapitalization effort because they feared that it would be financed at their expense, and insolvent S&Ls, who needed time to gamble for resurrection. Kroszner and Strahan (2000) provide a recent survey, and present some new evidence based on an analysis of voting patterns on amendments related to the 1991 U.S. Federal Deposit Insurance Corporation Improvement Act (FDICIA). Their main finding is that special interests play a key role in the determination of regulatory outcomes, and that welfare-enhancing change is most likely when there are interest group pressures on both sides of an issue.

The political economy of financial crises in emerging markets is a more recent topic of research, triggered mainly by the 1997 Asian crisis. Here, the main question is why domestic financial sectors were "poorly supervised, poorly regulated, and in a shaky condition even before the onset of the crisis" (Corsetti, Pesenti and Roubini, 1998). One suspect has been the supposed "Asian model" of government-business cooperation, which could have resulted in lax regulation, implicit guarantees, and poor protection of outsiders. Weder (1999) rejects the (somewhat narrower) notion that the proximity between public and private sectors in Asia was a cause of corruption, arguing that high public-private cooperation (for example, in Hong Kong and Singapore) tends to be *inversely* correlated with corruption measures. However, she also shows that contrary to general belief prior to the crisis, governance scores of the main crisis countries were mediocre when compared internationally. Johnson et al. (2000) show that there is a strong cross-sectional association between corporate governance indicators in emerging market countries and the depth of the crises as measured by exchange rate depreciations and stock market declines during the 1997-1999 Asian crisis period.

Finally, several recent cross-country studies explore the link between financial sector outcomes and governance indicators beyond the cases of the Asian crisis. The seminal paper by Detragiache and Demirgüç-Kunt (1998a) on the determinants of banking crises finds that better legal systems are associated with less frequent and less costly crises. Based on a group of 35 countries that include both emerging markets and some industrial countries, Keefer (2000) finds a significant relationship between the fiscal costs of banking crises and two factors affecting the power of special interests, namely the number of "veto players" involved in shaping legislation, and the proximity of elections. Using a panel of 93 countries in the period 1980-1996, Wei (2000) finds that corruption tends to bias the composition of capital flows away from FDI and toward bank lending. To the extent that bank lending is more volatile than FDI, this creates a channel from corruption to financial sector fragility.

The emphasis of our paper is on understanding how moral hazard could be created, and avoided, assuming that some degree of moral hazard exists. Our main motivation is crisis prevention in emerging markets. As such, there is a wide range of questions related to moral hazard which this paper does *not* discuss. As stated previously, we do not attempt to assess the empirical significance of moral hazard caused by international institutions, or test for its existence (see Box 1). Moreover, we do not discuss all the proposals that have been made to mitigate moral hazard, in particular those that advocate improving crisis resolution mechanisms, through changes in the law governing private debt contracts, or through officially sanctioned standstills as a way to resolve investor panics (Eichengreen, 2000). These proposals are complementary to the approach taken in this paper, in the sense that they seek to reduce the "demand" for international bail-outs, whereas we are focus on reducing moral hazard conditioning on the presence of (some) international crisis lending. Finally, we are not concerned with sovereign debt forgiveness vis à vis poor countries who do not have regular access to private capital markets, even though these may well have moral hazard implications.

2. Moral Hazard and International Bailouts: A Conceptual Framework

The purpose of this section is to clarify the theoretical underpinnings of our empirical and policy analysis. The problems posed by government guarantee and deposit insurance have been analysed extensively, in a domestic context, in the literature that followed the U.S. savings and loans crisis. We first summarize some lessons of this literature with a model that builds on Freixas and Rochet's (1997, Chapter 9) analysis of deposit insurance. We then consider how this approach must be modified in an open economy context, when the domestic guarantees are backed by international bailouts.

2.1 The domestic politics of bail-outs

Let us consider a country populated by two classes of agents: one banker, and the rest of the population. For simplicity, the latter is composed of identical agents who play two roles: that of lenders/depositors, and that of taxpayers in the event of a bail-out. There are two periods, $t=1,2$. The banker has access to a risky investment project that requires an investment of size 1 in period 1 and yields a stochastic return in period 2, equal to R with probability p, and zero with probability $1-p$. The banker does not have enough wealth of his own to finance his investment project and must borrow from the rest of the population. He invests a quantity K of his own wealth into the project and borrows $D = 1 - K$ from depositors. The credit market is perfectly competitive, all agents are risk-neutral, and have access to a riskless zero-interest bearing asset.

If the project return is equal to zero, the government may wish to bail out the bank, that is, repay the banker's creditors with the taxpayer's money (the banker himself receives nothing

in the bail-out).[3] There are several reasons—outside the model—why a bail-out may be optimal: for example, to preserve the payments system, to forestall an excessively persistent or severe credit crunch, or to mitigate the social costs of widespread liquidations.[4] Ex post, the primary beneficiaries of the bail-out is not the banker but the rest of the population.

Ex post, bail-outs do not involve any transfer from the taxpayers to the banker, and may even involve no transfer at all if each depositor receives exactly what he contributes as a taxpayer. Ex ante, however, bail-outs involve a transfer from the taxpayers to the banker. The bail-out guarantee allows the banker to borrow at a zero interest rate. As a result, the rest of the population receives less from the banker in good states of nature, without however receiving more in the bad states.

Table 1 shows the ex ante welfare of the banker and the rest of the population in the presence and in the absence of bail-outs. The initial endowments of the banker and the rest of the population are respectively denoted by W_b and W_{rop}, and their sum by W. Variable C represents the cost of the real economic disruption induced by the banking collapse for the domestic population in the absence of bail-out. Under laissez-faire the structure of bank liabilities is neutral. The banker's expected welfare is equal to his initial wealth plus the expected net payoff of the project, $pR-1$. The rest of the population's welfare is equal to its initial endowment minus the expected cost of a bank collapse, $(1-p)C$.

Table 1. Ex ante welfare

	No Bail-out	Bail-out
Banker	$W_b + pR - 1$	$W_b + pR - 1 + (1-p)(1-K)$
Rest of population	$W_{rop} - (1-p)C$	$W_{rop} - (1-p)(1-K)$
Total	$W + pR - 1 - (1-p)C$	$W + pR - 1$

The bail-out guarantee increases total welfare but the welfare gain is not evenly distributed between the banker and the taxpayers. The guarantee unambiguously benefits the banker: it increases his welfare by $(1-p)(1-K)$, the banker's debt times the probability that he will not have to repay it. The taxpayers, on the other hand, may or may not benefit from the

[3] Note that we do not consider pure liquidity crises in which the bank is solvent but illiquid. It is not clear which banking crises fit the definition of a pure liquidity crisis—as Table 2 shows (see below), banking crises have large fiscal costs.

[4] In Jeanne and Zettelmeyer (2001) bail-outs are socially optimal because liquidation is inefficient ex post under laissez-faire.

bailout guarantee, depending on how *C*, the cost of financial disruption induced by no bailout, compares to $1-K$, the fiscal cost of the bail-out.

Let us now introduce moral hazard into the model by assuming that the banker has in fact the choice between a continuum of projects with different risk/return characteristics, $p(\theta), R(\theta)$. Projects with higher θ are riskier, in the sense that they yield higher returns with lower probabilities ($R'>0$ and $p'<0$). In the absence of bailout the banker chooses the project θ^* that maximizes $p(\theta)R(\theta)$—see table 1.[5] This is also the project that maximizes total welfare in the presence of bailouts.[6] However, the bailout guarantee induces the banker to select a riskier project, the one that maximizes $p(\theta)(R(\theta)-(1-K))$. The level of risk undertaken by the banker is decreasing with the quantity of funds he has invested in the project, *K*.

The higher level of risk-taking in the presence of a bailout guarantee increases the banker's welfare, but reduces total welfare at the expense of the taxpayers. One way in which the government can induce the banker to select a less risky project is by introducing a capital adequacy requirement constraining the banker to invest at least some amount $K_{\min}$ of his own wealth in the project. The capital adequacy requirement will not remove moral hazard completely: the banker's level of risk-taking is minimized if he is asked to invest all his wealth in the project ($K=W_b$), and even in this case remains higher than the optimal level.[7] However, the equilibrium with a bail-out guarantee and $K=W_b$ may Pareto-dominate laissez-faire if the decrease in the social cost of a crisis more than offsets the increase in its probability.

Policies aimed at reducing moral hazard hurt the banker, however. Given the bail-out policy, the banker would like to reduce *K* to zero. Regulatory policy, thus, involves a clear conflict of interest between the banker and the average taxpayers. Because of a collective action problem, the banker may have stronger individual incentives to fight against tough banking regulation than taxpayers to fight for it. This is the view of the determinants of regulatory outcomes suggested by the empirical literature reviewed in Box 2.

There are several ways in which this stylized model can be extended. For example, moral hazard could involve looting instead of excessive risk-taking. It could involve lenders'

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[5] We assume that the banker can commit to the type of the project at the time the debt contract is signed, i.e., we abstract from the moral hazard arising from limited liability to better focus on the moral hazard implications of bail-outs.

[6] Note however that the level of risk-taking is excessive in the laissez-faire regime without bail-outs, because the banker does not take the social cost *C* into account.

[7] The banker chooses the optimal level of risk when $K=1$, that is, when he does not borrow.

monitoring effort rather than the borrower's choice of project. And the policy aimed at mitigating moral hazard could involve banking supervision and disclosure standards instead of capital adequacy requirements. These variants, which are studied in Jeanne and Zettelmeyer (2001), do not affect the substance of the analysis.

2.2. International moral hazard

How does the international dimension change the analysis? First, some bank creditors may be foreign. This implies that bail-outs have international redistributive implications ex post (from the domestic taxpayer to foreign creditors) but does not affect the banker's risk-taking behavior ex ante. Second, the fact that some bank liabilities are in hard currency may make it more difficult for the domestic government to raise the funds required by the bail-out in private capital markets, and may require some lending by the international community. This gives the international community some leverage—possibly a veto power—on the implementation of the bail-out. The third point is related to the second: the intervention of the international community puts the foreign taxpayer's money at risk. The cost of the bailout might be ultimately transferred from the domestic taxpayer to the global taxpayer if the domestic government does not repay its debt to the international community.

Under which conditions can the international community generate moral hazard? Consider a world in which the domestic government is unable to borrow from the private sector in a crisis, so that there is no bail-out in the absence of official lending—this is the market discipline solution to moral hazard. Then, the extension of official lending will generate moral hazard: it will induce the banker to choose a riskier project and the crisis, as a result, becomes more likely. But this increase in moral hazard is not necessarily suboptimal, and may in fact be associated with a Pareto-improvement if it is mitigated by an appropriate capital adequacy requirement. The question, then, is what determines the domestic capital adequacy requirement. This is where the domestic political economy and the international allocation of the fiscal cost of bail-outs comes into play.

First, let us assume, to take an extreme case, that the cost of the bail-out is entirely transferred to the foreign taxpayer, because the government does not repay its debt to the international community. Then the domestic taxpayer's welfare is independent of the probability of a crisis and a benevolent social planner maximizing domestic welfare would effectively maximize the banker's welfare. He would choose to impose no capital adequacy requirement, and moral hazard would be driven to an excessive level, at the expense of the foreign taxpayer.

Consider now the other extreme where the fiscal cost of the bail-out is borne entirely by the domestic taxpayer. International bail-outs could still generate excessive moral hazard, but this requires a departure from the benevolent social planner paradigm. If, to take again an extreme case, the government puts no weight on the domestic taxpayer's welfare and maximizes instead the banker's welfare, then the moral hazard effect of international bail-outs will be the same as when their cost was paid by the foreign taxpayers. In both cases the

government does not care about the taxpayers' welfare, in the first case because they are foreign, and in the second case because it does not care even about its own taxpayers.

Whether international bail-outs create excessive moral hazard, and which policy measures best deal with this problem, crucially depends on the international allocation of their fiscal cost. If the problem is that the cost is transferred to the global taxpayer, the solution would be to make countries internalize the moral hazard effects of bail-outs, by ensuring that they repay their debt to the international community. If, instead, the problem is that domestic governments in the receiving countries put insufficient weight on the welfare of their own taxpayers, the appropriate policy response on the side of the international community is much less straightforward. In essence, the question then becomes how official lending policies can be designed in ways that improve the domestic political economy equilibrium outcome. We show in the next section that the second view seems more relevant empirically, and explore its policy implications in the last section.

3. The International Allocation of the Fiscal Cost of Bail-Outs: Empirical Results

As Table 2 shows, domestic financial crises tend to have large fiscal costs: on average, 10-15 percent of GDP, and sometimes much more, especially in emerging economies. The purpose of this section is to assess how, as an empirical matter, these costs are ultimately allocated between the international and domestic taxpayers. This is achieved by constructing estimates of the magnitude of the international redistributive component in IMF lending (if any). The justification for concentrating on the IMF is that—except for the Mexican (1995) and Thai (1997) bail-outs, which also entailed large-scale bilateral lending—official crisis lending has been carried out mainly through non-concessional IMF lending facilities, along with those of some other multilaterals (the World Bank, the Asian Development Bank and the Inter-American Development Bank). The latter have a similar governance structures as the IMF and similar lending terms and repayment records.

Table 2. Incidence and Fiscal Cost of Systemic Banking Crises

Country	Number of Systemic Crises 1/	Crisis Years	Average Fiscal Cost 2/
Algeria	1	1990	…
Argentina	3	1980, 1989, 1995	28
Bangladesh	1	1987	…
Benin	1	1988	17
Bolivia	2	1986, 1994	…
Brazil	1	1994	13
Burkina Faso	1	1988	…
Burundi	1	1994	…
Cameroon	2	1987, 1995	…
Central African Republic	1	1980	…
Chad	2	1980, 1992	…
Chile	1	1981	41
Colombia	1	1982	5
Congo, Rep.	1	1992	…
Costa Rica	1	1987	…
Cote d'Ivoire	1	1988	25
Ecuador	1	1996	13
El Salvador	1	1989	…
Finland	1	1991	11
Ghana	2	1982, 1997	3
Guinea	2	1985, 1993	3
Guyana	1	1993	7
India	1	1991	…
Indonesia	1	1992	54
Israel	1	1980	30
Jamaica	1	1994	…
Japan	1	1992	20
Jordan	1	1989	10
Kenya	2	1985, 1993	…
Korea, Rep.	1	1997	27
Lebanon	1	1988	…
Madagascar	1	1988	…
Malaysia	2	1985, 1997	9
Mali	1	1987	…
Mauritania	1	1984	15
Mexico	2	1981, 1994	19
Nepal	1	1988	…
Niger	1	1983	…
Nigeria	1	1991	…
Norway	1	1987	8
Panama	1	1988	…
Papua New Guinea	1	1989	…
Paraguay	1	1995	5
Peru	1	1983	…
Philippines	1	1981	13
Senegal	1	1983	17
Sierra Leone	1	1990	…
South Africa	1	1985	…
Spain	1	1980	6
Sri Lanka	1	1989	5
Sweden	1	1990	4
Tanzania	1	1988	10
Thailand	2	1983, 1997	18
Tunisia	1	1991	3
Turkey	2	1982, 1991	2
United States	1	1980	3
Uruguay	1	1981	31
Venezuela, RB	1	1994	22

1/ Applying the Detragiache and Demirgüç-Kunt (1998a) definition.
2/ According to Honohan and Klingebiel (2000)

For the subsidy element in IMF crisis lending to be zero, the interest rate charged would have to be sufficiently high to offset the default risk faced *by the IMF*.[8] This is probably quite different from that faced by private lenders, for several reasons. The ability to impose conditionality ex post, which is typically justified by the need to ensure repayment, might imply that the Fund has a more direct influence on measures that improve country solvency than private institutions. In addition, the Fund may be in a better position to deter default. It can deny further IMF lending and thus effectively bar access to the multilateral financial safety net in the future (this occurs automatically if a country accumulates arrears to the Fund). It can also exert pressure on a country through the actions of its major shareholders, which often link bilateral lending to a country's good standing with the Fund.

It follows that the question whether IMF lending contains a subsidy cannot be answered by simply comparing IMF interest rates to market interest rates.[9] Instead, the relevant comparison is between the interest rate charged by the Fund and the default risk it faces. In the following, we first present some facts about IMF interest rates and then turn to the more difficult question of default risk.

3.1 What interest rate does the IMF charge?

The relevant interest rate for the bulk of IMF lending is the "basic rate of charge on ordinary resources".[10] It is denominated in SDRs, the IMF's currency unit, a basket of the major international currencies (since 1981). Except for a period in the early 1980s, which was unusual due to high interest rates in the U.S., the rate of charge has tracked the "SDR interest

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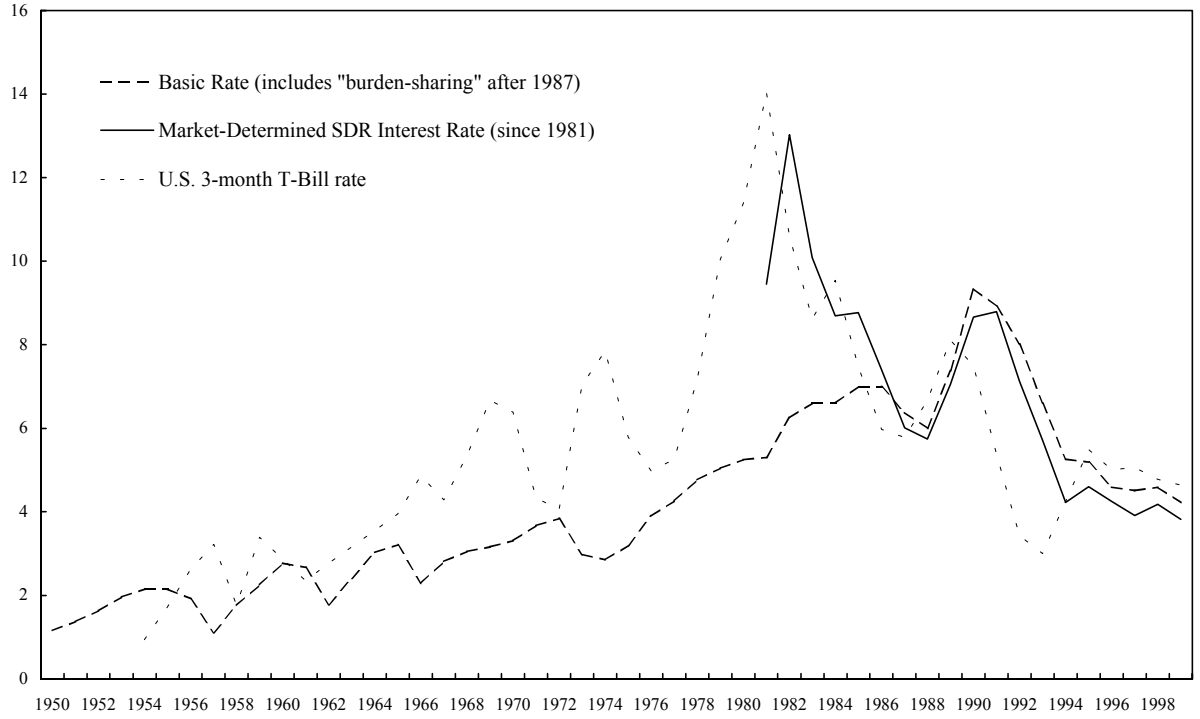
[8] The net expected transfer which a country receives when it borrows D dollars (or SDRs) from the Fund for one period is $D(1+i^*)-(1-p_{IMF})D(1+i_{IMF})$, where p_{IMF} and i_{IMF} denote the default risk faced and the rate charged by the IMF, respectively, and i^* is the risk-free dollar (or SDR) rate. For the net expected transfer to be zero, we must thus have $(1+i_{IMF})=(1+i^*)/(1-p_{IMF})$.

[9] In particular, the fact that the IMF lends to emerging market borrowers at rates that are lower than those charged by private lenders need not imply that international crisis lending contains a subsidy, as is sometimes suggested by critics of the Fund. See the *Wall Street Journal's* "Review and Outlook" column, April 23, 1998; and Calomiris (2001), among others.

[10] This is the interest rate that applies to the standard (non-concessional) IMF lending facilities. The interest rate charged by the IMF on its concessional facilities—the Enhanced Structural Adjustment Facility (ESAF) and its successor, the Poverty Reduction and Growth Facility (PRGF)—is much lower (1 percent or less). Concessional lending, however, is targeted toward very poor countries, and has not been used by the IMF to deal with the international financial crises that we focus on in this paper.

rate", which since 1981 has been set as a weighted average of 3-month money market interest rates of the SDR currencies (Figure 2). Since 1989, the basic rate of charge is formally set as a proportion of the SDR interest rate, and thus automatically adjusts to changes in money market rates of the major currencies.[11]

Figure 1. IMF Basic Rate of Charge and Market Interest Rates
(in percent)



Since the mid 1980s the IMF's rate of charge has been very close to the market-determined SDR interest rate. Prior to the mid 1980s, the IMF basic rate of charge was generally smaller than both the market-determined SDR interest rate and the U.S. 3-month T-Bill rate. Thus, a borrowing country could have generally have made a profit on IMF loans by maintaining reserves borrowed from the IMF in liquid money market instruments denominated in SDR currencies. In 1987, the spread between the basic rate of charge including burden-sharing and

[11] Broadly speaking, this proportion is set as the lowest mark-up consistent with paying members the SDR interest rate on their remunerated reserve tranche position, financing the administrative budget, and accumulating some "precautionary balances"(see IMF 1998, pp 30-31 for details) .

the SDR rate became positive.[12] Moreover, since the introduction of the Supplementary Reserve Facility (SRF) in December of 1997, the IMF has begun to impose surcharges for large-scale lending. Since November of 2000, surcharges apply to all nonconcessional Fund lending that exceeds 200 percent of quota.[13]

3.2 The IMF repayment record: is the past a good guide for the future?

Does the interest rate charged by the IMF reflect the default risk to which it is exposed? For the answer to be positive, the default risk facing the IMF would need to be very low indeed, since U.S. and SDR interest rates comparable with the rate of charge are virtually risk free. Given that the IMF typically lends to crisis countries that appear very shaky—and are often cut off from private financing or face prohibitively high market interest rates precisely for that reason—this seems to be a tall order. However, it is exactly what the IMF's repayment record suggests, at least *prima facie*. Prior to the recent HIPC initiative, IMF claims have never been forgiven, and arrears cases to the Fund are few and far between. Most of them are eventually settled, and they generally involve countries that go through wars or violent internal conflict.[14]

However, the relatively small number and volume of arrears cases are evidence of low default risk only if we assume that the IMF's repayment record over the last 50 years will continue to apply in the future. Some skeptics have expressed doubts on this. They argue that the IMF past repayment record was made possible by the IMF practice of refinancing its loans to the countries that were unable to repay. According to this view, many of the countries that have been in a continuous lending relationship with the IMF for many years may be playing an international version of the Ponzi game. If this is true, bad loans will increasingly tend to crowd out good ones in the IMF loan portfolio, and we should eventually either observe either an increase in the rate of default on IMF lending, or multilateral debt forgiveness. Indeed, the latter is already on the Fund's agenda, in the form of the Highly Indebted Poor Countries (HIPC) initiative, see IMF (1999). However, this concerns very

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[12] Under "burden sharing" (introduced in 1987), countries borrowing from the IMF are initially charged a higher rate to cover interest charges owed by countries in arrears. See IMF (1998), p. 105-106.

[13] The surcharges in place since November of 2000 amount to 100 basis points for all non-concessional Fund lending that exceeds 200 percent of quota, and rise to 200 basis points for lending that exceeds 300 percent of quota. Under the SRF, the surcharge is 300 basis points.

[14] Total arrears to the Fund in 1999 amounted to about 4 percent of its total loans and credits outstanding, and involved the following countries: Afghanistan, Democratic Republic of Congo, Iraq, Liberia, Somalia, Sudan and the Federal Republic of Yugoslavia, see IMF *Annual Report 2000*, Table 6.5, available on the IMF website (http://www.imf.org). For a comprehensive documentation of IMF arrears cases, see Aylward and Thorne (1998)

poor countries that are eligible for concessional lending, which are not our focus here.[15] The question is how widespread long-term continuous lending relationships between the Fund and borrower countries are, and whether they extend beyond the group of HIPC countries.

The potential scale of this problem is illustrated in Table 3, which examines the fraction of IMF programs that ends up in long-term lending relationships. For this purpose, we report the number of complete and incomplete lending cycles over the IMF history. A lending cycle is defined as an uninterrupted period of strictly positive "Total Fund Credits and Loans Outstanding", as reported in the *International Financial Statistics*. A lending cycle is "complete" if it ends prior to 1999. We refer to countries with outstanding debt in 1999 as being in an "incomplete" lending cycle.

Overall, and in most regions, the number of complete debt cycles exceeds that of incomplete ones. There are two main exceptions: Africa and (non-OECD) Europe. As can be seen by comparing the average duration of complete and incomplete cycles, the latter is due to a number of relatively recent lending cycles (reflecting the large number of transition economies who borrowed from the Fund for the first time in the 1990s) which mostly would not yet have been completed even if countries had just borrowed once from the Fund and repaid on schedule. In contrast, the large proportion of incomplete lending cycles in Africa reflects the prevalence of successive borrowing arrangements from the Fund over many years.

Columns 4 and 5 of the table display two interesting facts that seem to support the notion that the IMF's excellent repayment record so far may not necessarily reflect the steady state.

- Most countries with debt outstanding to the Fund at end-1999 were more indebted to the Fund in 1999 than at the beginning of their last (incomplete) lending cycle.[16]
- Moreover, most countries with debt outstanding at end-1999 had never completed an earlier lending cycle. In other words, most countries with debt outstanding to the Fund in 1999 never fully repaid the Fund after their first program.

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[15] For the same reason, we are not concerned with the possibility that the good IMF repayment record is in part attributable to *bilateral* debt relief, which may have made it easier for some debtor countries to service their obligations to the IMF. This can only have affected a small set of very poor countries, because these were the only countries to receive bilateral debt relief on a significant scale prior to the HIPC initiative (see Daseking and Powell, 1999). Moreover, in Jeanne and Zettelmeyer (2001), we show that taking into account bilateral debt relief has a very minor impact on our results even within the class of poor countries.

[16] Because IMF loans usually take several quarters until they are fully disbursed, the comparison is between debt in 1999 and debt at the end of the *second* year of the last lending cycle.

Table 3. Number and average duration of completed and incomplete debt cycles, 1947-1999

	Number of Countries	Number completed Debt Cycles	"Incomplete" Debt Cycles 1/ Total	Countries with ... NPV 99 > NPV(1) 2/	Countries with ... No compl. cycles	Average Duration of Cycles (years) Completed Cycles	Average Duration of Cycles (years) Incomplete Cycles
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All Countries	186	158	93	64	60	7.9	16.6
Industrial Countries	25	31	0	0	0	4.7	n.a.
Developing Countries	161	127	93	64	60	8.6	16.6
Africa	52	25	39	29	28	6.5	21.4
Asia	29	22	14	8	9	10.0	20.1
Europe	28	10	23	16	20	10.1	6.8
Middle East	14	14	2	2	0	9.1	8.5
Western Hemisphere	37	56	15	9	3	8.5	17.1
poor countries 3/	79	29	52	42	38	6.4	20.5
not poor	82	98	39	22	21	8.3	14.9
Memorandum Items: excluding cycles initiated after 1991							
poor countries 3/	79	29	44	34	32	6.4	23.3
not poor	82	93	20	10	7	8.6	22.2

1/ Number of countries with outstanding debt in 1999

2/ NPV 99: NPV of debt in 1999, discounted to year of first disbursement; NPV (1): NPV of debt in year after first disbursement of incomplete cycle (i.e. the second year with strictly positive "total credits and loans"), discounted to year of first disbursment

3/ Low income countries eligible for IMF and World Bank lending at concessional terms (as of Dec. 31, 1998)

The last four lines of the table, in which we distinguish between poor and middle income countries and abstract from lending cycles initiated after 1991, show that these facts are mainly accounted for by countries to whom the Fund was lending on concessional terms, and by first-time borrowers during the 1990s. If we abstract from both groups (see last line of the table), we are left with 7 middle-income countries which never fully repaid the Fund since their first program, and 10 whose debt to the Fund in 1999 exceeded their debt in the first year after the beginning of their last lending cycle. This group includes countries such as Argentina (a continuous debtor of the Fund since 1983), Brazil (since 1982), Jamaica (since 1973), Jordan (since 1985), Mexico (since 1982), Pakistan (since 1965), Panama (since 1974) and the Philippines (since 1968). Thus, in the class of middle-income countries which are the focus of this paper, long-term lending relationships associated with increasing levels of indebtedness to the Fund are not the rule, but neither are they very unusual.

3.3 Assessing the maximum subsidy element in IMF lending

If one accepts that, in principle, the IMF's excellent repayment record need not continue indefinitely, estimating the subsidy element in IMF lending raises a fundamental difficulty. An estimate must be conditional on an assessment of the *future* repayment record of the countries that are currently indebted to the IMF, and such an assessment is necessarily highly subjective. Rather than speculating about default probabilities for individual countries,[17] we address these issues by computing a crude *upper bound* to the redistributive element implicit in IMF lending. This upper bound is estimated under the extreme assumption that *all* countries that have debt outstanding to the IMF at end-1999 will eventually default. This assumption is clearly unrealistic; nevertheless, it is a worthwhile exercise to get a sense of the order of magnitude involved, particularly compared to the typical costs of domestic bail-outs shown in Table 2.

Our methodology relies on the notion of an hypothetical long-run IMF lending regime. This long-run regime involves two types of IMF lending cycles: those in which the borrower does not fully repay its debt to the Fund—we call them "subsidized lending cycles"—and those in which the debtor fully repays. The subsidy, for the first type of lending cycle, is equal to the amount by which the net present value of the repayments to the IMF falls short of the actuarially fair value. Suppose that a fraction μ of lending cycles is subsidized, and that the ex post subsidy amounts, in average, to a fraction ϕ of the receiving country's GDP at the beginning of the lending cycle. Given that the IMF lends at the riskless interest rate, the average *ex ante* subsidy is equal to the frequency of subsidized lending cycles times the size of the subsidy:

$$\sigma = \mu\phi$$

This variable represents the subsidy that a country can expect upon embarking in an IMF lending cycle, not knowing whether the cycle is of the subsidized or unsubsidized type.

The problem is that to the extent that the IMF history does not reflect the permanent regime, historical data do not allow us to infer the frequency of subsidized lending cycles, μ, or the size of the subsidy, ϕ. However, as we now show, historical data allow us to estimate *upper bounds* for both variables, based on extremely pessimistic assumption on the underlying composition of the IMF portfolio of loans.

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[17] Any such attempt would necessarily be speculative, since the concern to which we are responding is that past repayment performance may *not* imply that such performance is sustainable in the future. Thus, default models based on past repayment performance (e.g., Aylward and Thorne, 1998) could not be used for this exercise.

First, we can estimate the upper bound for the frequency of subsidized lending cycle by assuming that all incomplete lending cycles are of the subsidized type. Let *N* denote the total number of lending cycles over the IMF history, both complete and incomplete. We know that the lending cycles that were *completed* did not involve any ex post subsidy. Hence, the only suspicious (potentially subsidized) lending cycles ar the incomplete ones. Let us denote their number by *n*. If the number of lending cycles is sufficiently large to apply the law of large numbers, the fraction of suspicious cycles in the total number of IMF lending cycles provides an upper bound for the true frequency of subsidized cycles:

$$\mu < \overline{\mu} \equiv \frac{n}{N}$$

This upper bound describes a hypothetical "worst case scenario" in which *all* the IMF loans outstanding in 1999 are of the subsidized type.

The second step is to estimate an upper bound for the ex post subsidy in the incomplete lending cycles. Let $i = 1,...,n$ denote the countries that had debt outstanding to the IMF in 1999. The subsidy received by country *i* is obviously maximized if the IMF entirely forgives its debt ex post. Thus the ex post subsidy for country *i* , ϕ_i, must be smaller than:

$$\overline{\phi}_i = \frac{D_i}{R(t_i)GDP_i(t_i)}$$

where D_i is country *i*'s debt to the IMF in 1999; $R(t_i)$ is the risk-free discount factor between the first year of the lending cycle, t_i, and 1999; and $GDP_i(t_i)$ is the country's GDP at the beginning of the lending cycle.

Table 4 reports averages, taken over various country groups defined by region, income and access to capital markets, for the upper bounds $\overline{\mu}$ and $\overline{\phi} = (\sum \overline{\phi}_i)/n$. For each group, $\overline{\mu}$ is simply the ratio of incomplete to total lending cycles from the upper panel of Table 3. $\overline{\phi} = (\sum \overline{\phi}_i)/n$ is the average indebtedeness to the IMF in 1999, expressed in terms of country GDP in the first year of its last (incomplete) lending cycle. This is the subsidy that the country would receive in the event of default or forgiveness of its end-1999 level of debt. The product of the two upper bounds, $\overline{\sigma} = \overline{\mu}\overline{\phi}$, thus represents the *maximum* subsidy that an average country can expect ex ante, without knowing whether its lending cycle is of the subsidized type or not. Countries are grouped (1) regionally; (2) according to whether they were eligible for concessionary loans or not, as in Table 1; (3) whether the private sector in these countries issued any debt in international capital markets, and (4) according to membership in the group of countries tracked by the Emerging Markets Global Bond Index ("EMBI-Global") computed by J.P. Morgan. Criterion (3) attempts to separate countries that do not have access to global financial markets from those that usually do, while (4)

comprises most countries that financial market participants usually call "emerging markets". All large-scale IMF lending during the 1990s has gone to members of this group.[18]

Table 4. Maximum redistributive element in IMF lending, full sample

	Fraction of "incomplete" lending cycles 1/	Upper bound for ex-post subsidy 2/	Upper bound for ex-ante subsidy 3/
	$\bar{\mu} = n/N$	$\bar{\phi}$	$\bar{\sigma} = \bar{\mu}\ \bar{\phi}$
World Average	0.37	3.90	1.44
Industrialized Countries	0.00	n.a.	0.00
Developing Countries	0.42	3.90	1.65
Africa	0.61	4.58	2.79
Asia	0.39	1.79	0.70
Europe	0.70	5.57	3.88
Middle East	0.13	3.87	0.48
Western Hemisphere	0.21	1.53	0.32
poor 4/	0.64	4.41	2.66
not poor	0.28	2.24	0.84
private debt issuers	0.51	5.16	2.64
no private debt issues 5/	0.36	2.71	0.99
non-EMBIG	0.46	4.15	1.89
EMBIG 6/	0.31	2.71	0.85

1/ Number of incomplete lending cycles as a proportion of total lending cycles

2/ Average subsidy assuming default of all countries with debt in 1999, taken over all countries with debt outstanding in 1999 (in percent of GDP in initial year of last (incomplete) debt cycle).

3/ Average subsidy assuming default of all countries with debt in 1999, taken over all debt cycles (in percent of GDP in initial year of last (incomplete) debt cycle);

4/ Low income countries eligible for IMF lending at concessional terms as of December 30th, 1998.

5/ Countries that issued zero private sector bonds and at most one private sector loan in international capital markets since 1980.

6/ Countries included in the "EMBI-Global" bond index compiled by J.P. Morgan.

The main result is that the maximum subsidy element associated with IMF bail-outs is 1.44 percent of initial country GDP for the average Fund borrower. However, for the group of countries that is relevant for the purpose of our analysis—developing countries with access to private capital flows—the maximum subsidy is only half of this amount: between 0.62 and 0.99, depending how the group is defined. In essence, this is due to the fact that this group of countries has had a better than average repayment record in the past, i.e. that the number of

[18] [Group memberships to be added in an appendix].

completed relative to imcomplete lending cycles is high when compared to, say, poor countries without access to private capital markets.

Relative to the typical fiscal cost of domestic bank-bailouts (Table 2), these are very small amounts. It is important to keep in mind that these numbers are substantially upward biased relative to any reasonable estimate of the *actual* subsidy involved, not just because the assumption of default is not plausible for many countries that currently owe money to the IMF, but because approximately one third of the incomplete cycles are *recent* cycles where standard maturities have not yet lapsed, i.e. where countries could not yet be *expected* to repay.

3.4 Are the large crisis packages of the 1990s different?

Fears of IMF-related moral hazard were mainly motivated by the large crisis packages of the 1990s, not by the relatively small-scale adjustment lending in preceding decades. Specifically, there has been a worry that the potential redistributive element embedded in large scale packages à la Mexico (1995) or Korea (1997) was much larger than anything that might be infered based on the Fund's historic lending and repayment record.[19] If this is true, then the estimates of Table 4—which assumed an underlying *permanent* regime in IMF lending, with unknown, but fixed, parameters—could be misleading. They ignore the possibility that these parameters may have changed over time, and specifically, that the large packages of the 1990s might constitute a structural break.

We investigate this possibility in Table 5, which looks at the disbursements and total credit outstanding under these packages. The table confirms that with the exception of Brazil (1998), the crisis packages of the 1990s were indeed very large—on a commitment basis—in terms of initial GDP. Actual disbursements were much lower: about half of the committed amounts, except for the case of Thailand, where actual disbursements came close to the commitments. The Fund contributed around half of total disbursements, again with the exception of Thailand. Other lenders were the US government in the case of Mexico, the government of Japan in the case of Thailand and Indonesia, and other multilaterals (the World Bank and regional development banks).

For the purposes of comparison with Table 4, the relevant columns in Table 5 are the final two. In the terminology of the previous section, these give two alternative measures of $\bar{\phi}_i$,

[19] In the words of the *Wall Street Journal*'s editorial page (*Review and Outlook*, April 23 1998): "The IMF also likes to point out that in it's more than 50-year history there have been no major defaults; that is, the loans will be repaid ... What Congress might want to consider is that the fast-expanding IMF has never before operated on the scale of, say, organizing the past year's $120 billion in bail-outs for Asia. The more bailing the Fund does, the more it invites another crisis that could lead to truly vast defaults."

i.e. the ex-post subsidy that would arise in the event of total default or debt forgiveness, based on end-1999 debt outstanding. The penultimate column shows 1999 debt owed to the Fund on the *particular* lending program to which the table refers, while the last column is just total debt owed by the country to the Fund at end-1999.

Table 5. Crisis packages of the 1990s: Total financing and outstanding obligations to IMF (in percent of initial GDP 1/)

	Date of program approval	Financing Commitments		Disbursements under program		Credits outstanding on IMF program 2/, 3/	Total 1999 IMF credits outstanding 3/
		Total	IMF	Total	IMF		
Mexico	Feb-95	18.3	6.3	9.1	4.6	0.9	1.4
Thailand	Aug-97	11.5	2.7	9.6	2.3	2.1	2.1
Indonesia	Nov-97	19.6	5.2	9.3	4.8	4.3	4.3
Korea	Dec-97	12.3	4.4	6.5	4.1	1.2	1.2
Brazil	Dec-98	5.4	2.3	3.3	1.4	1.1	1.1

1/ GDP in first year of large package (1997 for Asian countries, 1995 for Mexico, 1998 for Brazil)
2/ IMF disbursements minus repurchases by end-99 *related to the the program.*
3/ Discounted to the first program year using IMF rate of charge

The principal finding is that, with the exception of the Indonesian case, the maximum subsidy element associated with the crisis packages of the nineties is approximately the same, or even lower, than the average maximum redistribution that would arise from default in 1999 on *all* Fund debt outstanding (compare the last two columns of Table 5 with the second column of Table 4). In essence, two effects seem to have roughly cancelled each other. On the one hand, the crisis packages of the 1990s did indeed involve exceptionally large disbursements, particularly in the cases of Mexico and Korea. One the hand, these large loans were also repaid much faster than average, so that the amounts owed by the crisis countries at end-1999 were not unusually high.[20]

4. Policy Implications

The findings of the previous section imply that domestic bail-outs occur overwhelmingly at the expense of domestic, rather than international, taxpayers. Interest charged under current

[20] The IMF has in the meantime taken several decisions which make accelerated repayments (relative to historical practice) a permanent characteristic of large crisis packages. In particular, the "Supplementary Reserves Facility" (SRF), introduced for the purposes of large-scale crisis lending after the Korea crisis, provides for an *obligation* to repay within 2 – 2 ½ years and an *expectation* of repayment one year before the final deadline (see IMF (1998)).

policies imply that the subsidy implicit in IMF crisis lending is zero or negative assuming that the IMF's historic repayment record continues in the future. Even if repayment to the IMF were to significantly deteriorate, any subsidy element would be small relative to the typical fiscal costs of banking crises. Consequently, international crisis lending cannot create moral hazard by holding out an international transfer as a reward for lax policies that make financial crises more likely. However, to the extent that the international community provides bridge loans that make domestic redistribution feasible, it may play the role of an accomplice in bringing about moral hazard. Thus, there is a sense in which moral hazard could be "caused" by international crisis lending.

Once its somewhat subtle and indirect nature is acknowledged, addressing the moral hazard caused by international bailouts is a challenging task. In spite of efforts at promoting international standards, the regulation and supervision of domestic financial sectors remains—and will remain for the foreseeable future—squarely within the bounds of national sovereignty. Moreover, the political economy determinants of these policies can be recognized, but cannot be addressed directly, by the international community. The Bretton Woods institutions do not have a mandate to promote a particular type of political institutions, and attempts to do so would certainly be strongly rejected by emerging countries as a violation of their national sovereignty.

However, international official lending policies can mitigate moral hazard by making the generosity of international bailouts in a crisis conditional on the quality of domestic policies, particularly in the financial sector, *before* a crisis erupts. This can be illustrated in the stylized framework of section 2. Let us consider the case where the cost of bail-outs is borne by the domestic taxpayer but the government maximizes the welfare of the banker. Then the domestic government sets no capital adequacy requirement (or shows no zeal in implementing them), the domestic banker undertakes an excessively high level of risk, and the proability of a crisis is high.

Now suppose that the government depends on international assistance to finance a bail-out. In that case, the underlying political economy problem can be effectively neutralized by conditioning this assistance in period 2 on the application of the optimal capital adequacy requirement $K = W_b$ in period 1. The banker then becomes favorable to the adoption and implementation of the capital adequacy requirement since this is a precondition to obtain the bail-out guarantee. His ex ante welfare is higher under a bail-out guarantee *cum* capital adequacy requirement than under laissez-faire (see table 1).

Note that this a rare instance of a problem being cured by addressing the symptom rather than the underlying cause: the underlying political economy problem—that the government ignores the welfare of taxpayers—is *not* cured. The international community improves the equilibrium outcome without direct interference in the domestic political economy, by rewarding good policies, through both increased access to financial assistance ex post, and a reduced risk premium ex ante. The better the institutions and policies that prevail before the crisis, the more "insurance" can be provided, in the form of an international financial safey

net, without destroying private sector incentives. Conversely, the worse institutions are, the greater the degree of market discipline which is required to offset their adverse incentive effects. Thus, the conclusion that crisis lending should be linked to policies *before* the crisis is not an artifact of the particular model we have used, but follows from the general trade-off between incentives and insurance.

An additional benefit of linking crisis lending to ex ante policies is that this could reduce the extent and intrusiveness of ex post conditionality. After the Asian crisis, for example, IMF structural conditionality was criticized for being excessive (Goldstein, 2000a). One reason why these conditions were imposed, however, is that the IMF seeked to take advantage of the time window in which it had some leverage over the governments, that is, while the countries needed IMF support after the crisis. Imposing some conditions for crisis lending *ex ante* rather than ex post would give the IMF more leverage in good times, allowing it to allocate conditionality over time in a more efficient and balanced way. Ex post conditionality could be limited to the measures that are better decided at the time of the crisis.

The idea of applying conditions for crisis lending ex ante rather than ex post is not new. It is embodied in a newly established IMF facility, the Contingent Credit Line (CCL), which provides for exceptional access to IMF resources for countries that qualify ex ante on the basis of sound policies and progress toward meeting internationally accepted standards. It was also raised in several recent proposals to reform the "international financial architecture". The Council on Foreign Relations Task Force (1999) suggests that the IMF should distinguish between three categories of countries on the basis of their compliance with a set of standards and good practices, and publish regularly reports assessing countries' progress in meeting these standards.[21] A country's class would then determine the availability of official assistance and the interest rate at which it is charged in the event of a crisis. The Report of the International Financial Institutions Advisory Commission (2000)—commonly known as "Meltzer Report"—takes a similar approach, but in a much more extreme form. It recommends that IMF lending be restricted to a group of countries selected for the soundness of their banking policies, with other countries being altogether ineligible for crisis official lending.[22]

Greater reliance on ex ante conditionality raises a number of questions related to design and implementation. One issue is precisely what ex ante conditions should be imposed. This is

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[21] These standards and practices specified in the report include, among others, the Fund's Special Data Dissemination Standard and the Basle Committee's Core Principles of Effective Banking Supervision.

[22] In order to be prequalified countries should satisfy four criteria: 1) freedom of entry for foreign financial institutions; 2) adequate capitalization of commercial banks; 3) provision of transparent information on the structure of sovereign debt and 4) an unspecified "proper fiscal requirement".

beyond the scope of this paper, but the logic of our model and the literature cited above offer some suggestions on where to start looking. The basic principle is that the maximum level of crisis assistance ex post (and possibly the interest rate at which it is provided) should depend on the extent to which a country implements financial sector policies that mitigate excessive risk taking. This includes policies for effective banking supervision along the lines described in the Basle Committee's "Core Principles" (Basle Committee on Banking Supervision, 1997), accounting standards, and public disclosure requirements.

Another important issue concerns the room that should be left for "constructive ambiguity". The need to preserve a measure of constructive ambiguity is the most serious objection against ex ante conditionality. On the one hand, it would seem important, in order to establish the credibility of ex ante conditionality and to ensure that countries receive an equal treatment ex ante, that the link between the quality of the domestic policies and the extent of crisis lending be governed by explicit and universal rules. On the other hand, there will need to be exceptions to the rules. For example, a crisis that is clearly triggered by a financial panic may argue for a rescue package even when the policy record prior to the crisis was mixed, or the risk of international contagion may require intervention even when the country would not, in isolation, have qualified for a loan. Conversely, limited fund availability may prevent the IMF from fulfilling its commitments to prequalified countries if a large number of them are simultaneously hit by a crisis. Like in the theory of incomplete contracts, these circumstances cannot be incorporated to the rules because they are difficult to describe ex ante or verify ex post.

The need for constructive ambiguity, however, does not *per se* invalidate the case in favor of ex ante conditionality—it rather underlines the need to think further about the various ways the two can be reconciled in practice. Domestic attempts at solving this problem may be a source of inspiration in this regard. For example, the reform of the U.S. deposit insurance system that followed the Saving and Loans crisis attempted to mitigate the moral hazard resulting from constructive ambiguity by establishing a system of check and balances that places stringent accountability conditions on economic officials when they decide to rescue a bank because it is "too large to fail" (Council on Foreign Relations Task Force, 1999).[23] This approach is consistent with an important lesson from the theory of incomplete contracts: when contracts cannot fully specify the actions of the contracting parties, they should instead focus on the rules by which these actions will be decided, i.e. allocate decision rights. Thus, behind the move towards ex ante conditionality in international bail-outs looms the broader question of the rules and procedures by which the international community determines its response to international financial crises, and in particular, the allocation of the decision rights among countries.

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[23] The Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991 makes it harder for regulators to bail out uninsured creditors. An extension of the guarantee to all bank creditors is possible in exceptional circumstances, but this requires the explicit consent of the secretary of the treasury in consultation with the president of the United States, two-thirds of the governors of the Federal Reserve and two-thirds of the directors of the FDIC.

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