

**Grants, Loans and Conditionality:
How to Increase Reform Efforts in Crisis Countries?**

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**First and Incomplete Draft: February 2007
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Abstract.

The paper analyzes whether it matters if development aid is given in the form of grants or loans. In particular, the question is if grants or loans provide more incentives for the receiving governments to pursue reform policies. The paper also addresses the influence of ex-post and ex-ante conditionality in this context. I find that grants could induce more efforts while ex-ante conditionality could be reform reducing. The conditions under which this is the case are explored in detail.

JEL-Classification: F 32, F 33.

Keywords: Grants, Loans, Conditionality, Moral Hazard, International Financial Institutions.

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1. Introduction

The mixed experience with countries' ability or willingness to service and eventually pay back credits obtained from International Financial Institutions (IFIs) has brought many observers to the conclusion that giving loans to certain countries is not very helpful. It has been documented that lending is often defensive, that is, credits are given to avoid countries' default on their obligations to IFIs (Easterly 2001, 2005), and that many official debtors suffer from a debt overhang and are not in a situation in which they could possibly service their debt (Radelet 2005).

On the basis of these arguments, it is suggested that official debt should be forgiven and that the system should be switched to one where countries would no longer receive loans but grants. This change in the official support for poor countries has been made on the side of politicians, such as Great Britain's Gordon Brown who suggested forgiving debt of certain countries completely, and U.S. President George W. Bush who advocated that the World Bank should give a larger share of its funding in the form of grants rather than loans, a position also taken by World Bank President Paul Wolfowitz.

There is some academic support for this view, too.¹ In favor of a shift from loans to grants is the Meltzer-Commission (International Financial Institutions Advisory Commission 2000) on the Bretton-Woods institutions. In its report it recommended that the World Bank shift towards giving grants rather than loans to countries that have pre-qualified for official support.² This so-called ex-ante conditionality would no longer support countries that promise to run a decent policy after they have received support, but they would only qualify if they

¹ Despite the intensive debate about this question, its empirical relevance is rather restricted. As Nunnenkamp et al. (2005) point out, more than 70 per cent of gross funds are already given in the form of grants (85 per cent net). They conclude that, if anything, the share of loans should be increased.

² Lerrick and Meltzer (2002) simply view loans as grants in disguise because of the high subsidized element in loans and the large amount of defensive lending.

have a history of responsible economic policy.³ Moreover, grants are advocated over loans by Bulow and Rogoff (2005) on the grounds that middle-income countries and emerging markets do no longer need IFIs to obtain funds. International financial markets are developed enough to provide them with funds (which was different when the IFIs were founded). Thus, only very poor countries are in need of official financial aid, and, since these countries are so poor, they should receive grants.⁴

Advocates of loans instead point out that IFIs use the money that flows back to them to hand new loans to other countries. A dollar spend in the form of loans could thus be leveraged and use to help other countries as well once it flows. In other words, a change in the system would likely require that the IFIs' funds be increased since otherwise they would rather soon exhaust their funds and no longer be able to support poor countries (see, however, Cordella and Uluk 2004). Moreover, loans, because of the fact that money must be invested wisely if it should be paid back, should lead to more prudent use of funds.⁵ While the first argument can not be confirmed in empirical work, because new lending seems to be unconnected to earlier lending (Odedokum 2005), Gupta et al. (2003) consider 107 countries between 1970 and 2000 and find that loans lead indeed to less debt and fiscally more responsible behavior. In particular, they find that in badly governed economies foreign aid is mostly offset by lower efforts. Loans instead lead to a "better" policy.⁶ Odedokum (2005) similarly finds that more concessionality in loans leads to more sensible policies.⁷ Cohen et al. (2005) finally stress that

³ The Task Force of the Council of Foreign Relations (1999) has explicitly rejected the idea of automatic disbursement of funds once conditions are fulfilled. Such automaticity rules out constructive ambiguity which is considered to provide positive incentives.

⁴ In a general discussion of official financial help, Rodrik (1995) argues there should be official lending only if IFIs have better information than private markets, or could sensibly impose conditionality and thus lead to more efforts than markets. Moreover, markets may fail to finance socially desirable projects (Cohen et al. 2005).

⁵ In addition, access to loans might serve as a signal to capital markets (Cohen et al. 2005).

⁶ This applies only to poor and badly governed economies. Otherwise, the difference is minor. See also Cordella and Ulku (2004) and Nunnenkamp et al. (2005). Rajan and Subramanian (2005) show, however, that there is not much effect of any kind of aid on growth.

⁷ For an early analysis, focusing on the point of view of the lender, see Schmidt (1964).

loans could serve as contingent funds which are much more easily and faster accessible than grants.

There is thus some relation to the literature on country insurance (Cordella and Levy Yeyati 2004, 2005; Chami et al. 2004). The focus in those papers, as is standard in the insurance literature, is to see how the existence of insurance influences the countries' incentives to undertake efforts to avoid coming into a situation where the insurance is needed. Cordella and Levy Yeyati (2004) find that efforts are decreasing if there is insurance that buffers shocks. On the other hand, insurance can lead countries to risk reforms with a long-term payoff that otherwise they might not risk. This, clearly, is closely related to the literature that looks at the moral hazard implications of crisis lending by the IMF and the World Bank (Eichengreen 2000, Jeanne and Zettelmeyer 2004, Dreher 2004, Dreher and Vaubel 2004, Döbeli and Vannini 2004, Corsetti et al. 2005).

The present paper focuses on another aspect of the grants vs. loans debate. It asks which of the two systems provides more incentive to governments in receiving countries because loans might also be a way for the IFI to condition the repayment that the country has to make on reform policies (ex-post conditionality). In both systems it is also possible to condition the first payment on certain policies in the past (ex-ante conditionality). I develop a model that looks first at the influence on either system of support of the government's reform policy, here defined as such measures that make the economy less vulnerable to shocks.⁸ I find that grants will induce more reform efforts if they are generally less generous than loans. If aid becomes systematically less generous, the country has a higher incentive to avoid crises and thus grants, if less generous than loans, induce more efforts. Moreover, it matters how much

⁸ Depending on the context these can be very different policy measures. In the context of recent financial crises this would mean to reduce the share of short-term foreign debt, of increasing the amount of currency reserves, or of reducing fiscal deficits and monetary growth rates. It can also mean to liberalize labor markets to make them more resistant to economic shocks and increase their flexibility.

the IFI would be willing to forgive of the country's debt if again hit by an exogenous shock. Again, such adjustments of net-repayments can lower reform efforts.

I also ask how ex-ante and ex-post conditionality influence reform efforts. While ex-post conditionality is clearly reform increasing, this is different for ex-ante conditionality. It could well be that ex-ante conditionality actually reduces reform efforts if the increase in loans in reaction to reforms is very strong. Because using efforts to avoid crises becomes less attractive if already little efforts get the country larger funds, crisis proofing the economy and receiving support are substitutes from the point of view of the government. These results make ex-ante conditionality less attractive than is often claimed.

2. The Model

The model considers a country that might receive aid from an international financial institution (IFI) in case of being hit by a negative exogenous shock. The IFI is thus most adequately interpreted as being the IMF or the World Bank and regional development banks in their capacity as crisis lenders. The model is less adequate to analyze situations where continuous development finance is provided, and too simple to allow a distinction between the IMF and the World Bank and other development banks. I therefore prefer to speak about IFIs in general.

There are two periods. At the beginning of periods one and two the government can make reform efforts. In the first period the country might be hit by an exogenous shock. In the second period the country has to pay back its debt, where the amount of money that has to be paid back might depend on the government's policy and also on whether the country is again hit by a negative shock. Thus, in both periods the country might suffer from negative shocks, such as oil price changes, natural disasters or a weak development of the world economy that lowers export possibilities.

The government's utility is defined over income y_i and reform effort e_i in two periods.

It is given as

$$U = u_1 + \beta u_2 \quad (1)$$

where $u_i = y_i - ce_i^2$ and β is the (common) discount factor.

The economy has a constant income stream μ that is equal in both periods. With probability π the economy is hit by an exogenous shock δ that lowers the income of the country. In case that the economy is hit by the shock in period one, the IFI could support the government with an amount of resources I_j to be specified later. In period two, the government has to pay back its debt to the IFI. In case that the economy is hit again by the shock δ , the payment can be lower than in the case of a positive development (see Chami et al. 2004). Reducing the amount of net-repayment in case of a second shock is another form of concessions that the IFI can make to the government and will be of significance later on.

Thus, the economy can be either in a high-income situation (indexed H) or a low-income situation (L) if hit by shock. The period incomes are therefore specified as

$y_1^L = \mu - \delta + I_j$, $y_1^H = \mu$ and $y_2^L = \mu - \delta - z_L$ and $y_2^H = \mu - z_H$. The degree of concessions that the IFI is willing to make to account for a negative development in the second period is

$$\Delta_z = z_H - z_L.$$

The type of support from the IFI to the government can take two forms $I_j = G, L$. It can be in the form of a grant (G) so that the government does not have to pay back any of the aid received (thus implying $z_L^G = z_H^G = 0$) or in the form of a loan (L) that must (in principle) be

paid back in period two.⁹ There are therefore two sources of concessionality. The IFI could either set $z_j = 0$ or take into account a negative development in the economy, thus $\Delta_z > 0$.¹⁰

The government's utility is not only a function of its income but also of efforts that the government can undertake to make the economy less vulnerable to economic shocks. The (convex) costs of these efforts are e_1^2 . The costs could be the loss of political support from the electorate or the forgone opportunities that an alternative use of resources would have provided if reforms are financially costly. Efforts have to be undertaken every period but are persistent. The main effect of these efforts is to make the economy less vulnerable to shocks, thus the government can, by undertaking more efforts, lower the probability that the economy will suffer from economic shocks.

Hence the probability of the low-income situation being realized is $\pi = \pi(e_1)$. Following Cordella and Levy Yeyati (2004), I assume that $\pi_1(e_1) = 1 - \gamma e_1$. However, I extend their model to a second period and assume that the reform efforts of period one continue to have a positive effect on the economy in the second period: $\pi_2(e_1, e_2) = 1 - \gamma(e_1 + e_2)$. Thus, efforts undertaken in period one have a lasting effect in period two in that their positive influence on the shock absorbing capacity of the economy is maintained. I assume that the effect is not diminishing over time so that the marginal impact of e_1 and e_2 is the same (namely γ).

Figure 1 around here

The timing and the payoffs of the model are illustrated in figure 1. In period zero, the government undertakes reform efforts e_1 , knowing that in period one with probability $\pi(e_1)$ a

⁹ I assume that the government will not default on its debt. Strictly speaking, in a two-period model the government would never pay back its debt. It thus has to be assumed that there is continuation of a lending cycles, where the desire to be able to receive money again in a new lending cycle will prompt the government to pay back its debt. Another reason to pay back could be that governments wish to avoid sanctions concerning trade (Rose 2005). See Eaton and Fernandez (1995) for a survey of motives to pay back their debt.

¹⁰ Zettelmeyer and Joshi (2005) look at the degree of implicit transfers in IMF lending. They conclude that only poor countries receive such transfers.

negative shock might occur. Provided that the shock has occurred, the country will receive financial support from the IFI in the form of either a grant or a loan. If help is in form of a loan, the government has to pay back at the end of period two. In period two, the country might again be hit by another shock, again of size δ . If this is the case, the IFI can decide to demand a reduced sum of the credit given in period one being paid back.¹¹ Therefore, a negative development in period two will result in net-repayments of z_L whereas otherwise z_H is due, with $z_H > z_L$. Moreover, the government can implement further reforms at the beginning of period two, e_2 , that further reduces the probability that the country is hit by a negative shock. As figure 1 shows, it is well possible that the country is only hit by a shock in period two. There is no net-repayment to the IFI in this case because there has been no credit in period one.

3. Unconditional Aid

As a first step it is assumed that the IFI's support to the government is exogenous before the next sections will look at how conditionality might influence the government's reform policy. This first case is important to isolate the pure influence of the type of financial help on reform efforts.

I solve the model by backward induction and begin with period two. At the beginning of period two the government determines its reform efforts in period two, taking into account that with probability $\pi(e_1, e_2)$ a shock might occur that will lower income. In this period, the government has to distinguish whether it has obtained financial support from the IFI in period one or not. If so, it has to pay back if this support has come in the form of a loan. By increasing its reform efforts the probability of a new shock can be reduced.

¹¹ One can also think of this as the IFI giving another credit at the beginning of period two but requiring a pay back of both credits at the end. Since only the net-payment matters, I simply consider the amount of net-repayment, denoted z_j . See also Chami et al. (2004).

Optimizing $u_2 = \pi(e_1, e_2) \cdot y_2^L + (1 - \pi(e_1, e_2)) \cdot y_2^H - ce_2^2$ with respect to e_2 leads to

$$e_2^* = \frac{\gamma(y_2^H - y_2^L)}{2c}, \quad (2)$$

which clearly shows the country's incentive to implement necessary reform because they reduce the likelihood that it will end up in a low income situation in period two. The more effective the reforms are, the higher the incentive to implement them. The more averse the government is to reforms, the lower they will be.

The general solution for e_2 can be distinguished for the two cases where the government has to serve some debt (if it has received a loan) or where no such payments are due (if the country has either received a grant or was not hit by a shock). The solution becomes, respectively

$$e_2^*|_{z_j=0} = \frac{\gamma(\mu - (\mu - \delta))}{2c} = \frac{\gamma\delta}{2c} \quad (3a)$$

$$e_2^*|_{z_j>0} = \frac{\gamma[\mu - z_H - (\mu - \delta - z_L)]}{2c} = \frac{\gamma(\delta - \Delta_z)}{2c} \quad (3b)$$

where $\Delta_z = (z_H - z_L)$ denotes the difference between net-payments in the good and the bad situation. This, in other words, measures how much the IFI is willing to make concessions if the country is again negatively hit in the second period.

Clearly, the reform efforts are increasing in their marginal impact on the probability of experiencing a crisis γ and decreasing in the government's aversion to reform c . Moreover, the efforts are increasing in the expected size of the negative shock δ . In case that the government has received a loan from the IFI in period one, its efforts are decreasing in the

difference in net-repayments under the shock and the no-shock situation. The reason is simply that the government has no interest in pursuing reforms if this leads to a higher net-repayment obligation. Loans will be reform lowering in the second period if they imply that higher repayments are due in the “good” state. Concessions are thus reform reducing, as far as they can be foreseen by the government of the recipient country. If there are no concessions in case of a bad shock, $\Delta_z = 0$, grants and loans lead to the same efforts by the government because there is no influence of efforts on debt service. The government is still better off with grants, but this has no effect on the optimal amount of efforts.

Turning to the first period, the expected utility of the government is

$$u_1 = \pi(e_1) \cdot \left[y_1^L + \beta \left(\pi(e_1, e_2) \cdot y_2^L \Big|_{z_j > 0} + (1 - \pi(e_1, e_2)) \cdot y_2^H \Big|_{z_j > 0} \right) \right] \\ + (1 - \pi(e_1)) \cdot \left[y_1^H + \beta \left(\pi(e_1, e_2) \cdot y_2^L \Big|_{z_j = 0} + (1 - \pi(e_1, e_2)) \cdot y_2^H \Big|_{z_j = 0} \right) \right] - ce_1^2.$$

Optimizing this expression with respect to e_1 leads to

$$e_1 = \frac{\gamma [y_1^H - y_1^L + \beta (y_2^H - y_2^L - (\hat{y}_2^L - y_2^L))] + \gamma^2 \beta [\hat{y}_2^H - \hat{y}_2^L - (y_2^H - y_2^L)] \cdot e_2}{2(c - \gamma^2 \beta [\hat{y}_2^H - \hat{y}_2^L - (y_2^H - y_2^L)])} \quad (4)$$

where a hat above the variable denotes the case where no credit has been given in period one and thus no payback is due in period two: $\hat{y}_2^j = y_2^j \Big|_{z_j = 0}$.

Again, the result form shows that the efforts are increasing in the higher income in period one if the shock can be avoided and the higher income if no credit has to be paid back if the shock in period one could be avoided (first bracket). The second bracket (multiplying e_2) shows that reforms in period one and period two are complements. While reforms in period two increases the probability that the high income situation is realized, reforms in

period one increase the probability that no credits have to be paid back in period two. The difference between these two income differences is the positive influence of reform in period one on reforms in period two, thus complementing those. The same term multiplying e_2 also lowers the denominator, thus increasing e_1 . Reform efforts in period one are obviously decreasing in the governments aversion to reforms c .¹²

By using the respective values for y and (3) the equilibrium values for e_1 are

$$e_1^*|_{z_j=0} = \frac{\gamma[\delta - I_j + \beta\delta]}{2c}, \quad I_j = 0, G \quad (5a)$$

$$e_1^*|_{z_j>0} = \frac{\gamma[\delta - L + \beta(\delta + z_L - \Delta_z)] + \gamma^2\beta\Delta_z \cdot \frac{\gamma}{2c} \cdot [\delta - \Delta_z]}{2[c - \gamma^2\beta\Delta_z]}. \quad (5b)$$

$\delta - I_j$ measures the net-costs of a crisis in period one, while $\beta\delta$ are the discounted costs of the crisis in period two. In case of a credit in period one, the net costs of the crisis in period two are increased by the repayment z_L but they fall in the amount of concessionality Δ_z the IFI is willing to grant. The last term in (5b) measures the expected interaction of reforms in period one on events in period two (discounted with β).

Again, efforts are increasing in the impact they have on avoiding a crisis γ and they are decreasing in the government's aversion to reform c . They are increasing in the size of the expected shock δ (in both periods) and decreasing in the size of the financial support that can be expected from the IFI in case of crisis I_j . The more generous the IFI will help a country in case of trouble, the lower is its incentive to undertake reforms in order to avoid getting into this situation. Since the size of the financial support could be varying depending on the type of financial support, it might play a role whether the support is in the form of grants or loans.

¹² The condition for $e_1 > 0$ is that the denominator is positive. I assume that c is sufficiently large.

It one assumes that grants would be lower than loans ($G < L$), simply because the resources of the IFI are more constrained if it cannot expect any repayment, a grant would be actually more reform increasing.¹³

Comparing (5a) and (5b) shows that $e_1^*|_{z_j > 0} > e_1^*|_{z_j = 0}$ if

$$\beta(z_L - \Delta_z) + \frac{\gamma^2 \beta \Delta_z}{c} \left(\frac{\delta - \Delta_z}{2} + (1 + \beta)\delta - G \right) > L - G. \quad (6)$$

Whether loans induce more reforms than grants depends thus on several factors. If loans in general are more generous than grants, there is little reason to implement reforms, since the size of loans is (at the moment) assumed to be independent of reform efforts. The difference between net-repayments under good and bad conditions has an ambiguous influence and thus is an important factor that decides whether loans and the conditions of repayment can be used to influence reform efforts. Assuming sensibly that $\Delta_z > 0$ and that $\delta > G$ (i.e. that a grant would never fully compensate the negative impact of the shock but only partly), it is clear that the left side of the inequality is positive. Since, however, β and γ are both smaller than unity, it is also clear that the LHS is not very large in absolute terms. Hence, only if L is not much larger than G would loans induce more reform efforts than grants.

The simple reason is that the more generous the country is supported in case of crisis the lower are its incentives to avoid crises. Thus, it seems that those critics have a point who assert that supporting countries creates moral hazard in the sense that the availability of insurance affects incentives negatively. As, however, Jeanne and Zettelmeyer (2004) have

¹³ Supporters of a shift to a grants usually stress that overall funds should be as generous (Cordella and Ulku 2004) or even be increased significantly to account for the loss of debt service (Bulow and Rogoff 2005). This need not be the best solution in terms of fostering reforms in recipient countries.

pointed out this does not necessarily mean that the apparent moral hazard is welfare reducing.¹⁴

Another important influence on countries' incentives is if the difference between net-repayment in case of good and bad developments in the economy is significant. Δ_z will be positive only if the IFI requests repayment and if it is willing to make concessions in case of a economic shock in period two (including the case where $z_L < 0$). If it would always demand full repayment, no matter in what situation the countries find themselves in, that difference would obviously also be zero and (5b) would collapse to (5a), thus becoming equal to the situation without repayment. The difference is thus one important policy variable that the IFI could use to induce more reforms in the recipient country.

One can therefore derive that (see the appendix for details)

$$\frac{de_1}{d\Delta_z} < 0 \tag{7}$$

which establishes that reform efforts are actually declining in the difference between repayments under good and bad conditions. Therefore, concessionality does not contribute to more reforms.

4. Aid with Conditionality

This section looks at how conditionality influences the government's reform efforts. I first consider the case of ex-post conditionality and then look at the case of ex-post and ex-ante conditionality combined. A necessary assumption for this is that reform efforts must be

¹⁴ The argument is that moral hazard is irrelevant if nobody is worse off through its existence. Moreover, if countries are induced to take more risks through the existence of insurance, this can actually be welfare increasing, as pointed out by Cordella and Ley Yeyati (2004). See also Corsetti et al. (2005).

observable to some degree. Otherwise, the IFI could not condition its action on these reforms. It also requires that the connection between loans and concession concerning repayments is known and reliable. There is hence no room for constructive ambiguity on the side of the IFI.

4.1. Ex-Post Conditionality

First, consider the case that the IFI conditions its repayment policy on the reform efforts that the government has undertaken. Assume that the IFI gives a credit L to the government in period one and then demands that some reforms be undertaken. If reforms are undertaken the IFI demands a lower repayment than otherwise. Hence, implementing reforms leads to lower net-repayments at the end of period two. In terms of the model, I hence assume that $z_j(e_2)$ with $z_j' < 0$, $z_j'' < 0$ where primes denote the first and second derivative with respect to e_2 . For simplicity, I additionally assume that the impact of reforms on repayment is equal across the two states of nature: $z_H' = z_L'$.

Optimizing u_2 with respect to e_2 results in

$$e_2^* = \frac{\gamma(y_2^H - y_2^L) - z_j'}{2c} \quad j = L, H \quad (8)$$

The comparison with (3) shows that indeed ex-post conditionality can induce the government to implement more reforms (as $z_j' < 0$). While in the unconditional case the government would be “punished” for implementing reforms (because this would raise the probability that z_H has to be paid instead of z_L) this is no longer the case. Instead, the government benefits doubly from increasing e_2 . The probability of having a crisis is reduced and the amount of money to be paid back to the IFI is reduced. Ex-post conditionality is clearly reform inducing.

4.2. Ex-Ante Conditionality

The IFI can also condition its crisis aid on the pre-qualification of the government for assistance. Let $I_j = I_j(e_1)$ so that grants as well as loans are positive functions of reform implemented at the beginning of period one. Thus, I assume $I_j' > 0$ and $I_j'' < 0$. For simplicity, I assume again that the marginal influence of reforms is the same in case of grants and loans: $G' = L'$.

The optimization of e_1 leads to

$$e_1 = \frac{I_j' + \gamma[y_1^H - y_1^L + \beta(y_2^H - y_2^L - (\hat{y}_2^L - y_2^L))] + \gamma^2\beta[\hat{y}_2^H - \hat{y}_2^L - (y_2^H - y_2^L)] \cdot e_2}{2[c - \gamma^2\beta[\hat{y}_2^H - \hat{y}_2^L - (y_2^H - y_2^L)]] + \gamma I_j'}, j = G, L \quad (9)$$

Using (8), this amounts to

$$e_1^* \Big|_{z_j=0} = \frac{G' + \gamma[\delta - G + \beta\delta]}{2c + \gamma G'} \quad (10a)$$

for grants and

$$e_1^* \Big|_{z_j>0} = \frac{L' + \gamma[\delta - L + \beta(\delta + z_L - \Delta_z)] + \gamma^2\beta\Delta_z \cdot \frac{\gamma}{2c}(\delta - \Delta_z - z_L)}{2[c - \gamma^2\beta\Delta_z] + \gamma L'} \quad (10b)$$

for loans.

Thus, the question is if and how the ex-ante conditionality would influence the government's incentive to implement reforms. One finds that

$$\frac{de^*}{d\Gamma_j} > 0 \quad j = G, L$$

only if

$$2c > \gamma^2[\delta - G + \beta\delta], \quad (11a)$$

in the case that grants are given. The resistance against reforms (in both periods) must be larger than benefits of reform in terms of output loss avoided minus the grant that is provided in case of a shock in period one. Thus, in this case the government would normally not implement reforms. Only in this case, conditioning grants on reforms being implemented ex-ante increase efforts.

In case of loans the condition for a positive relation between conditionality and reforms is

$$2[c - \gamma^2\beta\Delta_z] > \gamma^2[\delta - L + \beta(\delta + z_L - \Delta_z) + \gamma^2\beta\Delta_z \cdot \frac{\gamma}{2c}(\delta - \Delta_z - z'_L)]. \quad (11b)$$

The condition is similar to the one above, requiring that the government is generally unwilling to implement reforms. The term on the right hand is now more complicated, because now the “negative” effect of reforms in terms of leading to higher repayments in period 2 has to be taken into account as well.

Making crisis support a function of ex-ante reforms could thus very easily imply that countries undertake less reform efforts than if support is exogenous. The simple reason for this is that reform efforts to avoid crises and external support in case of a crisis are substitutes. By increasing reforms a bit, the country does not only lower the probability that it is hit, but it also increases the probability that it receives financial support if a crisis hits, which offsets to some degree the first incentive. There are thus lower incentives to undertake huge reforms to

avoid crises because crises become less hurtful to the country since financial support is larger. Ex-ante conditionality is thus a two-edged sword.

Contrary to a widely held belief it is thus not clear that strict ex-ante conditionality is actually reform increasing. While conditionality implies that countries have to undertake some reforms to be able to use emergency funds, it is not clear that their efforts are larger than they would otherwise be. Conditionality does thus not always ensure that the desired policy is implemented to the desirable extent.

Returning to the initial comparison to reform efforts under grants and loans, comparing (10a) and (10b), it follows that $e_1^*|_{z_j>0} > e_1^*|_{z_j=0}$ only if

$$\gamma(z_L - \Delta_z) + \gamma^2 \beta \Delta_z \frac{\gamma}{2c} (\delta - \Delta_z - z_L') + \frac{2\gamma^2 \beta \Delta_z}{2c + \gamma G'} (G' + \gamma(\delta - G + \beta\delta)) > L - G \quad (12)$$

Again, it follows that ex-ante conditionality can influence reform efforts positively only if the amount of money that countries receive as loans is not much larger than what they would get as a grant. This reflects the same logic as above where too generous support is reform reducing (cf. (6)).

5. Conclusion

The present paper has developed a simple model to see how countries' efforts to implement reforms are influenced by the fact that they either receive grants or loans from International Financial Institutions. It adds the reform aspect to the debate of whether international financial support to countries in economic crisis should be in the form of loans or rather grants (as some observers and influential commissions have advocated). I reach some conclusions that are not necessarily in line with the arguments brought forward by the

advocates of such a shift and a strict ex-ante conditionality tied to the distribution of crisis funds.

My main results are that loans are not necessarily leading to a better policy, as is often maintained in the literature. The reason is that the obligation to repay in case of a loan can be lessened if the country finds itself in a bad situation. Gambling for concessions in terms of repayment obligations might prompt countries to be less reform friendly than might be possible otherwise. There is thus a clear moral hazard element involved with loans as well, and not only with grants, as is usually argued. Conditionality can, with grants as well as with loans, lead to more reform efforts, however, if countries are reform unfriendly. Thus, conditionality works best in less well governed economies, which is not surprising. For it to work, the case of grants is more straightforward simply because here as well countries benefit alone from more efforts, whereas in case of loans they run the risk of having to pay back more of their debt than otherwise. Concessions in repayment obligations are thus negative for reforms in this case as well.

The simple nature of the model implies that it leaves many questions unanswered. The paper, for instance, has not been able to derive welfare implications. While the government's utility function could be used for such purposes, it is not clear how this would reflect the country's overall welfare. Moreover, only one of the actors involved has been considered here. At least the IFI's decision making process would be another aspect that should be analyzed in more detail. The next logical step would be to endogenize the IFI's decision and to model its decision process explicitly. Depending on the IFI's utility function some of the results derived here might change. Another interesting extension would be to model explicitly the IFI's budget constraint and to take into account that giving out grants instead of loans would decrease the IFI's capability to help other countries in crisis in the setting developed here.

Appendix

The condition for $\frac{de_1}{d\Delta_z} < 0$ is

$$(c - \gamma^2 \beta \Delta_z) \left[\frac{\gamma^2}{2c} (\delta - \Delta_z) - 1 \right] - \gamma^2 \left[\delta - L + \beta (\delta + z_L - \Delta_z) + \frac{\gamma^2}{2c} (\delta - \Delta_z) \right] < 0$$

which is likely to be fulfilled given that $\frac{\gamma^2}{2c}$ is small.

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Figure 1: Structure of the Model

