Cohen, Daniel; Jacquet, Pierre; Reisen, Helmut

Working Paper

Loans or grants?

WIDER Discussion Paper, No. 2007/06

Provided in Cooperation with:
United Nations University (UNU), World Institute for Development Economics Research (WIDER)

Suggested Citation: Cohen, Daniel; Jacquet, Pierre; Reisen, Helmut (2007) : Loans or grants?, WIDER Discussion Paper, No. 2007/06, ISBN 978-92-9230-023-4, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki

This Version is available at:
https://hdl.handle.net/10419/84659

UNITED NATIONS UNIVERSITY
UNU-WIDER
World Institute for Development Economics Research

Discussion Paper No. 2007/06

Loans or Grants?

Daniel Cohen,[1] Pierre Jacquet,[2] and Helmut Reisen[3]

November 2007

Abstract

We argue in this paper that cancelling the debt of the poorest countries was a good thing, but that it should not imply that the debt instrument should be foregone. Debt and debt cancellations are indeed two complementary instruments which, if properly managed, perform better than either loans or grants taken in isolation. The core of the intuition, which we develop in a simple two-period model, relates to the fact that the poorest countries are also the most volatile, so that contingent facilities, explicitly incorporating debt cancellation mechanisms, are a valuable instrument.

Keywords: grants, loans, developing countries

JEL classification: F34, F35

[1] (corresponding author) Ecole normale Supérleure, Paris, email: daniel.cohen@ens.fr; [2] French Development Agency, Paris, email: jacquetp@afd.fr; [3] OECD Development Centre, Paris, email: helmut.reisen@oecd.org

This study is a revised version of the paper presented at the 16-17 June 2006 WIDER development conference on 'Aid: Principles, Policies, and Performance', directed by George Mavrotas.

UNU-WIDER gratefully acknowledges the financial contribution to the conference by the Finnish Ministry for Foreign Affairs.

UNU-WIDER also acknowledges the financial contributions to the 2006-07 research programme by the governments of Australia (AusAID), Denmark (Royal Ministry of Foreign Affairs), Norway (Royal Ministry of Foreign Affairs), Sweden (Swedish International Development Cooperation Agency—Sida), and the United Kingdom (Department for International Development—DFID).

Acknowledgements

The authors thank Xiaobao Chen, Mathieu Hernu and Cecile Valadier for their brilliant research assistance. This paper expands on a Policy Brief of the OECD Development Centre 'Beyond Grant versus Loans'. The views here expressed here do not necessarily represent the views of the OECD or those of the Agence Française de Développement. We thank a referee for useful comments.

Acronyms

AFD	Agence Française de Développement
CPIA	country policy and institutional assessment (of the World Bank)
HIPCs	heavily indebted poor countries
IDA	International Development Association
IFRS	international financial reporting standards
MDRI	multilateral debt relief initiative
NGO	nongovernment organization
ODA	official development assistance

UNU World Institute for Development Economics Research (UNU-WIDER)
Katajanokanlaituri 6 B, 00160 Helsinki, Finland

Typescript prepared by Liisa Roponen at UNU-WIDER
Printed at UNU-WIDER, Helsinki

ISSN 1609-5774
ISBN 978-92-9230-022-7 (printed publication)
ISBN 978-92-9230-023-4 (internet publication)

1 Introduction

Suppose a DAC donor earmarks US$1 billion of taxpayers' money for official development assistance (ODA). The donor may use two instruments as an outright grant or in combination with a market loan to produce a concessional loan of US$2 billion with a percentage grant element of 50 per cent. Many nowadays think the choice should be clear: provide grants only, leave loans to the market. Since its inception in the 1980s, the developing country debt crisis has marked a dramatic watershed in ODA, as it brought home the fact that ODA loans had accumulated into unsustainable debt and thus called into question the use of loans to finance development.

After 2000, the *grants-versus-loans* controversy developed when an influential US Congress Report of the International Financial Institution Advisory Commission (better known as *Meltzer Commission*; see IFIAC 2000) concluded that total cancellation of poor-country debt was essential. One of the conclusions of the Meltzer Commission on reforming the World Bank and the International Monetary Fund was that development assistance should be administered through performance-based *grants* rather than (concessionary, or soft) *loans*. Under this system, grants would be disbursed not directly to the government, but to a nongovernmental organization (NGO), charity, or private-sector business that would offer the cheapest bid for a project. These recommendations were echoed in US President Bush's proposal in 2001 during the negotiations for the 13th IDA replenishment that 50 per cent of IDA financing to poor countries should take the form of direct grants.

The heavily indebted poor country (HIPC) debt reduction initiative has been seen as proof of failure of the soft loan strategy. The international agreement on debt relief (Multilateral Debt Relief Initiative, or MDRI) reached by the G-8 finance ministers in mid-2005 followed suit, cancelling US$56.5 billion in loans owed to the World Bank, African Development Bank, and International Monetary Fund. At Gleneagles the heads of state formally endorsed the agreement made by their finance ministers. Fourteen countries in Africa and four in Latin America became eligible for immediate debt forgiveness under the plan, and a further nine should benefit over the next few years.

One thing, however, is to agree on cancelling the debt, and another one is to consider that the instrument should be foregone. Although paradoxical at first glance, we shall argue in this paper that debt and debt cancellations are two complementary instruments which, if properly managed, perform better than either loans or grants taken in isolation. The core of our intuition relates to the fact that the poorest countries are also the most volatile, so that contingent facilities, explicitly incorporating debt cancellation mechanisms, are a valuable instrument.

The sequel of the paper comes as follows. We first review critically a few of the arguments weighting grants against lending to the poorest countries, notably the incentive effects of each instrument. We then address what we regard as the most serious criticism against loans, namely the issue of 'defensive lending'. If lenders had to refinance by themselves their loans to the poorest countries, then it is clear that the instrument is equivalent to a grant. We show econometrically that this has not been the case in general. Defensive lending is an occasional, not a systematic feature, of loans to the poorest countries.

We then offer a simple theoretical model to show that the equivalence between loans and grants that is assumed or demonstrated in a number of papers (Lerrick and Meltzer 2002, in particular) only holds if the country has access to fully fledged financial markets. When this is not the case, we show that soft loans incorporating debt cancellations mechanisms perform better than grants only or loans only. Our paper builds upon similar intuitions to the paper by Cordella and Ulku (2004), although our framework focuses on the role of uncertainty which is absent in their framework.

We finally present one of the lending scheme that could be applied to the poorest countries and calibrate the cost that would have to be borne by the creditors, were they to incorporate a contingencies clause in their lending strategy.

2 Overview of arguments

2.1 Efficiency

Are grants more efficient than loans in fighting poverty? A number of papers have addressed this question, with no obvious answers so far. Nunnenkamp, Thiele and Wilfer (2005) conduct a simple correlation analysis to explore whether loans and grants have different impacts on economic growth. They look, on the one hand, at the relation between total net ODA, total net loans, total grants and the grant element in ODA commitments (computed as the product of the grant element as defined in DAC statistics and ODA commitments), and, on the other, average per capita growth in gross national income over the subsequent five years. Their analysis finds no substantial difference in the impact on economic growth between ODA distributed through grants and ODA distributed through loans.

Second, it is interesting to ask how ODA relates to local fiscal discipline. Since grants need not be repaid, they entail a potential disincentive on the mobilization of public revenues and on the quality of public spending. Increased dependency on external aid may result. In principle, loan repayments should help build financial discipline and promote the efficient use of funds. Before moving to empirical results, however, the whole theoretical argument needs to be qualified. In a dynamic framework in which beneficiary countries rely on the continuation of grants and in which development institutions are keen on producing a given level of ODA, the incentive structure is more complex. For example, if the renewal of a grant can be credibly tied to a given level of financial discipline in the recipient country, then the aforementioned disincentive is offset by the positive incentive of having the flow of grants renewed. However, ‘grant pushing’ behaviour by development institutions might again weaken that incentive. More than a grants-versus-loans issue, this is another version of Buchanan’s (1975) Samaritan’s dilemma.

Odedokun (2003), using yearly panel data from 1970 to 1999 for 72 ODA beneficiaries, finds that concessional loans are typically associated with higher fiscal revenues, lower public consumption, higher investment rates and lower dependency of the public deficit on external financing. In poor countries, a higher level of grants in total ODA is associated with a lower tax effort. Gupta et al. (2004) look at a set of 107 countries that benefited from ODA between 1970 and 2000, assessing the impact of grants and loans on the domestic fiscal effort. They find that an increase in total ODA (sum of grants and concessional loans) leads to a decline in fiscal receipts in the beneficiary country.

McGillivray and Ahmed (1999) and Sugema and Chowdhury (2005) reach similar conclusions using data from the Philippines and Indonesia, respectively. However, Gupta et al. (2004) also look at the differential impact of grants and loans, finding that an increase in grants translates into lower receipts: 28 cents of each additional $1 grant are offset by a reduction in the fiscal effort. Conversely, loans tend to be associated with increased government revenue. In countries with weak institutions, additional grants are completely offset by a reduction in domestic revenues (see also Clements et al. 2004).

In summary, the argument according to which loans are equivalent to grants is not warranted from these analyses, at least from the point of view of the incentives that each instrument carries.

2.2 Defensive lending

Another powerful line of reasoning against loans relates to the institutional incapacity of the poorest countries to fulfil their financial commitments. According to Bulow and Rogoff (2005), this institutional weakness is also the simplest way for explaining the lack of access to international financial markets.

Bulow and Rogoff cite a study conducted by the American Congressional Budget Office, according to which the market value of the debt for the multilateral banks is markedly lower than par. In other words, according to this line of argument, the reason why the poor countries have no access to the international financial markets is the same one as that explaining why the loans of multilateral banks are non-recoverable.

Lerrick and Meltzer (2002) as well as Radelet (2005) argue similarly that loans carry perverse incentives, in particular linked to the pressures on creditors to make new loans to allow countries to repay old ones, whereas grants can be devised to generate positive incentives. Contrary to loans, grants do not contribute to debt overhang. Bulow and Rogoff sum up this last point in the following way: ‘multilateral development banks sometimes have their own internal pressures to pump out loans, inducing politically fragile developing countries to take unwanted debt.’ According to this argument, thanks to the grants, the multilateral agencies would not be obliged to weaken poor countries, for lack of adequate instruments. Defensive lending, which obliges the lenders themselves to refinance the loans when they come due is, under this analysis, the necessary outcome of lending to the poorest countries. When defensive lending became the norm, debt had to be written down. Which is why, again following the reasoning behind the Meltzer commission, cancelling debt was a good thing, on the condition never to lend again.

It is clear that defensive lending, if a fact, would hamper the relevance of loans to the poorest countries. If debt service had to be constantly refinanced by the creditors themselves, then in reality they would be not different from grants. It is this issue that we now test econometrically.

2.3 An econometric test

In order to shed light on the relevance and significance of defensive lending, we present an econometric analysis relative to the borrowing policies conducted by the private sector, the bilateral and the multilateral agencies respectively. The matter we want to

tackle here is the part of defensive lending granted by each of these groups to their clients. We measure the extent to which new loans (in gross terms) are explained by debt service of the debt. Our analysis follows Marchesi and Missale (2004) (although they reason only in net terms). We also investigate the extent to which grants by bilaterals are a substitute to defensive lending.

The data that we use are the following. Grants and loans are obtained from the OECD Development Assistance Committee (DAC). Debt service is calculated from the database of the Global Development Finance produced by the World Bank. The data 'political rights' and 'civil liberty' which we also control for, come from the Global Development Network Growth Database. We regress gross loans upon debt service and take the value of the coefficient as a measure of defensive lending. We also control for (the lagged value of) the debt-to-GDP ratio (Ldebt), the (lagged value) of grants-to-GDP, population growth (population), lagged GDP growth (LGDP Growth), lagged inflation (Linflation), lagged political rights and civil liberties. Lagged values are meant to avoid endogeneity problems. We take political rights and civil liberties as proxies for governance indices.

The results are presented in Tables 1 and 2. Table 1 shows the amount of defensive lending that took place for all three private, bilateral and multilateral lenders, over the period 1980-2004. Private lenders are the least concerned, with less than 3 per cent of their loans that can be interpreted as defensive loans. Then come the bilateral lenders with a ratio which is three times higher. Finally the multilateral lenders experience a defensive lending ratio which is again three times the level of the bilaterals, at about 30 per cent.

Table 1
Comparative defensive lending, 1980-2004

	Private loans/GDP	Multilateral loans/GDP	Bilateral loans/GDP
Debt service/GDP	0.03030***	0.30368***	0.09279***
	(2.56)	(14.94)	(6.64)
L.debt/GDP	-0.00046	-0.00023	-0.00182*
	(-0.98)	(-0.24)	(-2.04)
L.bilateral grants/GDP	0.00084	-0.01013	-0.00590
	(0.40)	(-1.59)	(-1.17)
L.multilateral grants/GDP	-0.00887	0.00596	0.01175
	(-1.25)	(0.34)	(0.83)
Population	0.00003	-0.00003*	0.00006***
	(1.54)	(-2.30)	(3.32)
L.GDP growth	0.00002	0.00011	-0.00004
	(0.85)	(1.94)	(-0.90)
L.inflation	0.00002	0.00001	0.00001
	(0.23)	(0.55)	(0.81)
L.political rights	0.00012	-0.00001	0.00111***
	(0.50)	(-0.04)	(3.48)
L.civil liberties	0.00090**	-0.00215***	0.00060
	(2.89)	(-4.30)	(1.35)
Time and country dummies	Yes	Yes	Yes
N	1326	1325	1326
Wald	1023	3174	1713

Note: GLS regression with time and country fixed effects, panel-specific heteroscedasticity and AR(1); t-statistics in parentheses; * is 90 per cent; ** is 95 per cent; *** is 99 per cent significance level.

Table 2
Evolution of defensive lending and grants

	Private loans/GDP	Multilateral loans/GDP	Bilateral loans/GDP	Bilateral debt relief grants/GDP
Debt service/GDP 1980s	0.27241***	0.25554***	0.10711***	0.48939
	(10.57)	(9.66)	(4.90)	(0.98)
Debt service/GDP 1990s	0.02162	0.35603***	0.10008***	0.30614
	((1.41)	(13.03)	(5.36)	(1.68)
Debt service/GDP 2000s	-0.00288	0.12123***	0.02256	0.93890***
	(-0.16)	(3.52)	(0.90)	(2.65)
L.debt/GDP	-0.00021	-0.00045	-0.00184*	0.00704
	(-0.42)	(-0.46)	(-2.06)	(0.72)
L.bilateral grants/GDP	0.00084	-0.00860	-0.00577	0.01488
	(0.36)	(-1.38)	(-1.15)	(0.37)
L.multilateral grants/GDP	-0.00630	0.00373	0.01101	-0.10700
	(-0.80)	(0.22)	(0.79)	(-0.88)
Population	0.00002	-0.00003***	0.00006	0.00001
	(0.92)	(-2.83)	(3.27)	(0.05)
L.GDP growth	0.00002	0.00007	-0.00003	0.00026
	(0.64)	(1.26)	(-0.86)	(0.60)
L.inflation	0.00001	0.00001	0.00001	-0.00002
	(0.17)	(0.31)	(0.48)	(-0.32)
L.political rights	-0.00006	-0.00001	0.00109***	0.00200
	(-0.27)	(-0.04)	(3.41)	(0.63)
L.civil liberties	0.00045	-0.00217***	0.00053	-0.00337
	(1.46)	(-4.35)	(1.20)	(-0.75)
Time and country dummies	Yes	Yes	Yes	Yes
N	1326	1325	1326	899
Wald	906	2903	1638	60

Note: GLS regression with time and country fixed effects, panel-specific heteroscedasticity and AR(1); t-statistics in parentheses; * is 90 per cent; ** is 95 per cent; *** is 99 per cent significance level.

Table 2 breaks down the ratios over three time horizons: 1980s, 1990s and 2000-05 which we call, for simplicity, the 2000s. The picture is slightly different. All three lenders eventually experienced some defensive lending, but at different time horizons. Private lenders were concerned in the 1980s, multilateral lenders in the 1980s and 1990s.

These econometric results point to a simple conclusion. Defensive lending has taken place across all classes of creditors. Altogether, however, they do not appear to be an intrinsic and repeated feature of lending to poor countries nor to have exceeded about one-third of the debt service involved. There is no intrinsic capture of the creditors by their debtors. On the other hand, creditors do have to refinance loans when under financial stress. This feature points to the need of contingency clauses more than to foregoing the instrument itself.

3 A theoretical framework

Bulow and Rogoff argue that that the poorest countries have no access to the financial markets for lack of proper institutions which, in their view, is the very reason why they

should not have access to soft loans either. There is however another explanation as to why poor countries have no access to the international financial markets: it is the fact that their economies are too volatile. Financial markets do not handle well economic volatility when it comes to sovereign creditors. The lack of efficient procedures for settling debts in case of bad shocks makes it difficult to cancel debt when needed. Financial crises are more frequent than smooth resolutions of debt problem. Private loans to developing countries have *de facto* not helped to smooth per capita consumption but tended to increase the volatility of consumption (Reisen and Maltzan 1999) in poor countries. Kharroubi (2005) shows how volatility does tend to exclude poor countries from international financial markets.

In the model that we present below, exclusion from the financial markets will be the outcome of two features: poor institutions and high volatility. In this context, we explore the conditions under which grants and loans are not equivalent and draw policy implications for the design of soft loans.

3.1 The setting[1]

Consider an open country in a two-period framework. The country considers an investment I_1 in period 1. We suppose that there are two states of nature in period 2. In the favourable state, the return to the investment will be Q_+; in the unfavourable state, Q_- (with $Q_+ > Q_-$). We suppose further that the unfavourable state occurs with probability $p < 1$. The world risk-free interest rate is r.

In such a framework, the investment will be socially profitable if and only if:

$$I_1(1+r) \leq (1-p)Q_+ + pQ_- \qquad (1)$$

In what follows, we assume that this condition is satisfied.

Let us now assume that the country finances I_1 through its own financing capacity Q_1 in period 1 and through a debt D_1 contracted in period 1 from outside investors, such that:

$$Q_1 + D_1 = I_1$$

Let us assume that the country suffers from weak institutions and governance problems and that these translate into an institutional capacity $\lambda \in [0,1]$ to repay the debt. λ can be interpreted as the recoverable part of any investment by the foreign investor.

The debt can then be repaid (on average) if and only if:

$$D_1(1+r) \leq (1-p)\lambda Q_+ + p\lambda Q_-$$

Let us call ρ the risk-adjusted interest rate on debt D_1. Foreign investors will thus require a payment of $R = D_1(1+\rho)$ in period 2.

---

1 This section draws on Cohen and Portes (2005).

If $R \leq \lambda Q_-$, the country is solvent and can borrow at the risk-free rate ($r = \rho$).

If $\lambda Q_- < R \leq \lambda Q_+$, the country will not be able to repay the debt should the unfavourable state of nature occur. We suppose that in such a case the country defaults. Investors will be willing to finance D_1 at a rate ρ such that:

$$D_1(1+r) = (1-p)D_1(1+\rho)$$

This implies that $(1+\rho)(1-p) = (1+r)$, and $\rho \cong r + p$.

Finally, let us suppose that the country has no financing capacity in period 1 ($Q_1 = 0$). The investment will be possible if and only if:

$$I_1(1+r) \leq \lambda Q_+(1-p)$$

Given λ and p, it is thus perfectly possible that a socially profitable investment—i.e., an investment verifying (1) above—will not be financed.

In the following, we assume $I_1(1+r) > \lambda Q_+(1-p)$ so that I_1, which we suppose to be socially profitable, will not be undertaken if it were to be financed by the financial markets alone. We ask how development aid can help solve this inefficiency.

3.2 The (non-) equivalence between grants and loans

A first option consists in making a grant G_1 to the country. G_1 will finance part of the investment (thus contributing to the country's own financing capacity) and is chosen so as to make I_1-G_1 financeable by the financial markets. The grant G_1 will thus be chosen such that: $(I_1 - G_1)(1+r) \leq \lambda Q_+(1-p)$, hence

$$G_1 = I_1 - \frac{\lambda Q_+(1-p)}{1+r}$$

A second option consists in making a loan I_1, knowing that the country will default in the unfavourable state of nature. Such a loan will thus repay $\lambda Q_+(1-p)$. It will therefore cost an amount exactly equivalent to G_1. In such a setting, the loan and grant equivalence is obtained. This is the core of Lerrick and Meltzer's argument.

Suppose, however, that donors tailor the subsidized loan to the unfavourable state of nature and therefore ask for a repayment $R = \lambda Q_-$. In such a scenario, the country will be able to service its debt in both states of nature. The subsidized loan needed to make the investment happen will then cost G' such that:

$$G' = I_1 - \frac{\lambda Q_-}{1+r}$$

It then follows that if $Q_+(1-p) < Q_-$, $G' < G$. A subsidized loan is to be preferred to a grant. In this case *the equivalence between loans and grants is broken: soft loans (with susbsidized rates) are superior to grants.*

Let us emphasize the reasons behind this result. The non equivalence comes from the fact that financial markets are imperfect, in the sense that they are not able to supply state-contingent securities. Subsidized loans, to the extent that they allow the country to repay the debt in all states of nature, circumvent, in part this deficiency. This is why they can then work better than a combination of loans and grants. Clearly, however, the best solution would be to design a loan whose service is contingent on the state of nature, namely:

$R_+ = D_1(1+\rho)$ when Q_+ occurs, and $R_- = \lambda Q_-$ in case of Q_-.

If private creditors are able to design such loans, then the equivalence between loans and grants would be restored. (Note that in the framework of Cordella and Ulku 2004, the countries do not gain access to the financial markets so that the question does not arise in their model). *If developing agencies stand in a better position than private markets to devise contingent loans, i.e., if their comparative advantage lies in their ability to write down the debt when needed, then state-contingent loans are once again superior to grants.*

3.3 Lessons

In the model that we have examined, developing countries' insufficient access to international capital markets relates both to the volatility of their resources and to their lack of institutional commitments. High volatility translates into higher spreads which limit borrowing capacity. Some socially productive investments may then not be spontaneously financed. In such a framework, the equivalence between loans and grants does not hold, when the market is unable to provide adequate state-contingent debt. Solving these market failures should be part of the aid donors' mission.

Debt cancellation of poorest countries, such as the one engineered after the HIPC Initiative, far from being bad news, may on the contrary reveal the comparative advantage of development agencies. The international financial markets indeed suffer from not having transparency procedures for debt cancellation. Debt and debt cancellation should instead be thought as complementary instruments, rather than substitutes.

4 A new vehicle for lending to the poorest countries

4.1 How to handle the volatility of poor countries

Let us focus on vulnerability to external shocks as a major factor which should be addressed by lenders to poor countries. Natural resource price volatility has long been recognized as a major source of vulnerability for developing countries. There is ample evidence of the negative impact of export instability and of economic volatility on economic growth (Ramey and Ramey 1995). While the problem has long been known

and understood, and despite several attempts, the international community has failed so far to provide a practical solution. Measures to stabilize natural resource export prices have failed in the face of the high and persistent costs of the distortions thus created, given the evolution of markets. Mechanisms such as the Stabex[2] were conceived to provide counter-cyclical relief. In practice, however, they worked rather pro-cyclically and did not achieve their objectives (Collier et al. 1999).

The nature of the shocks is one of the critical features that make them difficult to manage. Price shocks have tended to be permanent rather than cyclical. This is also one of the reasons why *ad hoc* debt rescheduling has often left debtor countries with an increasing debt burden that eventually became too heavy, as such operations were based on the false hope that higher prices and a more lenient economic environment would eventually bail out overly indebted countries.

Guillaumont et al. (2003) usefully discuss several ways to use ODA to dampen the impact of price shocks. A first option consists in explicitly linking yearly repayments to the state of nature by automatic adjustment of the public debt service to the evolution of export prices: reduced debt service during crises, faster repayment during booms. In a similar spirit, Gilbert and Varangis (2005) call for explicit loan indexation on prime material prices.[3]

An interesting idea, also explored by Guillaumont et al. (2003), consists in using the subsidy element embedded in concessional loans to finance cushioning. The central repayment scheme might be based on constant annuities, but the loan would be associated with contingent grants provided in response to a temporary exogenous negative shock that would partly cover debt service. Such grants would be financed by a reduction in the primary loan concessionality, which means that the implied subsidy on the loan interest rate would be lower or the amortization period shorter. If no shock occurs during the amortization period, the associated grant might be used in whole or in part to cover the last payments under strict economic policy conditionality (to provide some incentive for sound management of any price booms).

4.2 A new lending strategy

Cohen, Fally and Villemot (2004) propose a medium-term solution that consists in smoothing out export revenues across a moving average of the previous five years, thus providing a cushion without leaning against the winds of long-run trends. Such idea could easily be applied towards adding a price indexation formula to concessional ODA loans. For example, creditors might monitor the difference between previous price averages and current prices. When that difference exceeds a given level, loan repayments could be either accelerated or reduced. Following these ideas, we have

---

2 The Stabex was set up in 1976 by the European Community under the Lomé Convention and was discontinued in 1980. It was a system of compensatory finance to stabilize African, Caribbean and Pacific countries' agricultural export earnings. Below a given reference threshold, a developing country would receive from the Stabex mechanism a financial transfer to cover the difference between the threshold and actual export receipts.

3 Donors are currently experimenting with similar ideas. For example, the Agence Française de Développement (AFD) recently made a loan to a cotton company in an African country whose maturity depends on cotton prices.

calibrated a simple lending strategy. We investigate the cost of cancelling (rather than refinancing) the service of the debt in all instances where the value of exports falls below *x* per cent of their moving averages over the past five years. We show the range of results when the threshold *x* varies from 95 per cent to 75 per cent.

We present in Table 3 the simulations results which are obtained when taking the set of IDA-only countries where the Agence Française de Développement intervenes. The simulations are based on past performances of these countries, during the period 1975-2005. On average, one obtains that a fraction representing 35 per cent of the loans would have to be foregone, were the debt service of debt to be cancelled whenever the level of exports fall below the 95 per cent threshold. The worst-case scenario is with Burundi, where the occurrence would have reached 62 per cent. Even this worst-case scenario, however, is within the range of grant elements incorporated in loans to the poorest countries (which is on average about two-thirds of the face value of loans). There is therefore room for tailoring contingent loans whose grant elements would amount in providing automatic debt relief to the indebted country in time of distress.

Table 3
Occurrence of shocks, 1975-2003
Cases (in % of total number of years) when exports fall
below x% of their moving averages of the past five years

Threshold x	95%	90%	85%	80%	75%
Bangladesh	14	14	7	3	3
Benin	31	10	7	3	3
Bolivia	31	17	14	3	0
Burkina Faso	34	24	21	10	7
Burundi	62	52	41	34	14
Cameroon	28	17	17	7	0
CAR	48	41	28	21	7
Chad	41	38	21	14	10
Côte d'Ivoire	41	28	14	10	7
Gambia	31	14	14	7	0
Haiti	24	21	10	10	10
India	3	0	0	0	0
Kenya	28	21	10	7	0
Madagascar	24	21	21	14	14
Malawi	41	24	17	7	0
Mali	14	14	3	0	0
Mauritania	48	31	17	3	0
Niger	48	31	28	24	17
Nigeria	38	31	24	21	17
PNG	31	28	21	10	3
Rwanda	45	41	38	31	17
Senegal	34	24	14	3	0
Sierra Leone	59	55	48	41	31
Togo	41	34	24	24	14
Average	35	26	19	13	7

4.3 Implementation

This discussion leads us to advocate a scheme in which the ODA subsidy involved in concessional ODA loan would be used to adapt the service of the debt to the shock pattern that debtor countries face so that debt solvency is maintained. We calibrated a simulation based on exports, but the same idea could be applied to a mechanism which depends upon the price of a basket commodities representative of the country's exports. This would allow for a swifter mechanism. One could go beyond these ideas, and allow for a judgment of the lending agencies themselves, as to when it is appropriate to cancel debt service.

One way of implementing these ideas would be to get multilateral and bilateral[4] development institutions to build up reserves that would allow them to cancel debt service when the country is in a bad state of nature. Such reserves would be calibrated to cover risks related to shocks in natural resource prices and to natural disasters facing developing countries. They could use part of the grant element to finance the build-up in reserves.

However they may be implemented, these ideas face several institutional constraints, both in terms of the way the DAC is currently accounting for ODA and with regard to accounting standards such as the new International Financial Reporting Standards (IFRS). Reserves, for instance, so long as they are undisbursed, are not counted for as ODA, which usually requires a spending item in the public budget. The same issue arises with guarantees. Time is ripe for debate and possible change of outdated ODA accounting conventions.

Moral hazard stands as another important issue that needs to be addressed. Any debt cancellation scheme introduces a bias in favour of debtor countries. The risk is that of transferring resources from properly managed countries that honour their debt commitments towards those that fail to do so. Indeed, experience with debt reduction under the HIPC Initiative illustrates that risk. ODA flows seem to have benefited the most indebted countries rather than the neediest ones, even if there is no evidence that debt relief has had any significant crowding-out effect on other aid flows (Powell 2003); and there seems to be no correlation between debt reduction and either the level of poverty (Cohen and Vellutini 2004) or the quality of governance.

The schemes that we propose, however, offer a possibility of significantly reducing the level of moral hazard involved. For one thing, the debt cancellation mechanism, if based on world prices only, cannot usually be manipulated by the country.

One can also imagine that countries, which have not depleted the reserves committed to them, could use them at the end of the loan in order to shorten the life of their debt. There would be no cross subsidies across countries, which is a problem, but this would have the merit of incentive compatibility.

Third, the amount of 'sleeping' reserves committed to each country depends on the threshold that is chosen. This threshold need not be the same across countries. It could be chosen out of an explicit and transparent assessment of the country risk and thus calls

---

4 Development institutions that make bilateral loans (such as AFD) already provision country risk.

attention to country specifics and policies. To give a practical example, one could conduct a detailed country risk analysis and classify developing countries in four groups, calling respectively for reserves amounting to 25 per cent, 50 per cent, 75 per cent or 100 per cent of debt, each with a corresponding threshold based on past experiences. In the first group, considered as exceptional, a provision of 100 units would allow a loan of 400 units; in the second, the same provision would allow a loan of 200 units; in the third, 133 (=100/75). The fourth and last group would require outright grants. Countries with poor institutions and governance would belong to that group, for which the arguments presented by Bulow and Rogoff (2005) are valid.

Such a scheme also calls for a much tighter coordination between multilateral and bilateral donors. There is a collective action problem in dealing with debt reduction, since it is in no creditor's interest to move first lest its move facilitate repayment to other creditors. It is interesting to compare our proposal with IDA14 provisions for 2005-08. IDA plans to allocate one-third of its resources to outright grants rather than highly concessional loans. A country might qualify for IDA loans provided that its debt remains within preset debt sustainability criteria established by the World Bank and the IMF. These criteria identify debt thresholds of 100 per cent, 200 per cent or 300 per cent of exports, depending on the institutional risk as measured by the World Bank's country policy and institutional assessment (CPIA). When the debt is too high, the country qualifies for grants instead. In order to avoid penalizing a solvent country as compared to an insolvent one, IDA14 has decided to cut its grants by a discount factor of 20 per cent (or 9 per cent in a major post-conflict situation). The discount is supposed to limit moral hazard in that it penalizes a country that purposely lets its debt grow astray.

Our scheme is based on similar principles, but proceeds in a more systematic fashion. The leverage factor allowed in loans is grounded on constituting provisions that correspond directly to the grant element of international aid. The more solvent a country (i.e., the more it is able to build its institutions so as to honour its debts), the higher the possible leverage. Instead of a fixed discount, our proposed solution uses a progressive scale depending on the quality of the country's governance.

Conclusion: beyond grants versus loans, towards modern development finance

The basic message of our paper is that the grants-versus-loans debate as it was cast during the IDA13 replenishment has been misleading and largely irrelevant. It came in a context where most multilateral and, even more, bilateral ODA was already delivered as outright grants. It broadly disregarded financial and economic analysis and reached one-sided conclusions that do not fit well with empirical observations. By putting the focus on ODA instruments, however, it has helped to raise awareness about the link between such instruments and aid effectiveness. Our main conclusion is that there is a rationale for loans as effective ODA delivery mechanisms and that there is also a rationale for development institutions to provide concessional loans.

One of the shortcomings of past loans was that risks were insufficiently taken into account and that the typical ODA instrument was too archaic to adapt to the solvency constraint of a poor country that is highly sensitive to external shocks. Modern ODA should build on the capacity of donors to use a wide range of financial instruments, from direct subsidies to market loans, guarantees, and state contingent debt. The key

and the originality, therefore, lie in mixing taxpayers' money with a number of financial instruments, in a flexible and innovative manner. This is, of course, a major departure from the conventional conception of ODA instruments as either direct grants or concessional loans.

One obstacle, as mentioned above, lies with the current accounting definition of ODA, which, because of the necessity for public communication concerning the ODA figure, conditions both the nature of the ODA instruments that can be used and their destination. The time has come to open up the statistical definition so as to make full use of the potential of ODA and increase its efficiency. The debate is only getting under way and needs to be pursued within the donor community, notably within the DAC coordination framework.

Bibliography

Alfaro, L., S. Kalemii-Ozcan and V. Volosovych (2005). 'Why Doesn't Capital Flow from Rich to Poor Countries? An Empirical Investigation'. NBER Working Paper 11901. Cambridge, MA: National Bureau of Economic Research.

Buchanan, J. M. (1975). 'The Samaritan's Dilemma'. In E. S. Phelps (ed.), *Altruism, Morality and Economic Theory*. New York: Russel Sage Foundation.

Bulow, J., and K. S. Rogoff (1990). 'Cleaning Up Third-World Debt Without Getting Taken to the Cleaners'. *Journal of Economic Perspectives*, 4 (1): 31-42.

Bulow, J., and K. S. Rogoff (2005). 'Grants versus Loans for Development Banks'. Paper presented at the American Economic Association Meetings, 7 January. Philadelphia.

Chang, C. C., E. Fernandez-Arias, and L. Serven (1998). 'Measuring Aid Flows: A New Approach'. WB Policy Research Paper 2050. Washington, DC: World Bank

Clemens, M., S. Radelet, and R. Bhavnani (2004). 'Counting Chickens when They Hatch: The Short-Term Effects of Aid on Growth'. CGD Working Paper 44. Washington, DC: Center for Global Development.

Clements, B., S. Gupta, A. Pivovarsky, and E. R. Tiongson (2004). 'Foreign Aid: Grants versus Loans'. *Finance and Development*, September: 46-9.

Cohen, D. (2001). 'The HIPC Initiative: True and False Promises'. *International Finance*, 4 (3): 363-80.

Cohen, D., and C. Vellutini (2004). 'Beyond the HIPC Initiative'. Report to the European Commission. Available at: www. europa.eu.int/comm./development/body /theme/docs.

Cohen, D., T. Fally, and S. Villemot (2004). 'In Favour of a Fund to Stabilize Commodity Exporters' Income'. Discussion Paper 5550. London: Centre for Economic Policy Research.

Cohen, D., and R. Portes (2005). 'Towards a Lender of First Resort'. Discussion Paper 4615. London: Centre for Economic Policy Research.

Cohen, D., and H. Reisen (2006). 'L'aide aux pays pauvres: prêts ou dons?'. In D. Cohen, P. Jacquet and S. Guillaumont-Jeanneney. Report of the French Conseil d'Analyse Economique on Development Aid (forthcoming).

Collier, P., P. Guillaumont, S. Guillaumont-Jeanneney, and J. W. Gunning (1999). 'Reforming Stabex'. *The World Economy*, 22 (5): 669-82.

Cordella, T., and H. ulku (2004). 'Grants versus Loans'. IMF Working Paper WP/04/161. Washington, DC: International Monetary Fund.

Gilbert, C., and P. Varangis (2005). 'Commodity Prices'. Washington, DC: World Bank. Mimeo.

Gupta, S., B. Clements, E. Baldacci, and C. Mulas-Granados (2004). 'The Persistence of Fiscal Adjustments in Developing Countries'. *Applied Economics Letters*, 11: 209-12.

Guillaumont, P., S. Guillaumont-Jeanneney, P. Jacquet, L. Chauvet, and B. Savoye (2003). 'Attenuating through Aid the Vulnerability to Price Shocks'. Paper presented at the World Bank 2003 ABCDE-Europe Conference, May. Paris.

Hernandez, L., and S. Katada (1996). 'Grants and Debt Forgiveness in Africa'. WB Working Paper 1653. Washington, DC: World Bank.

IFIAC (International Financial Institutions Advisory Committee) (2000). *Report of the International Financial Institution Advisory Commission* ('Meltzer Report'). Washington, DC: United States Congress.

Jacquet, P., and S. Marniesse (2005). 'Financing Global Public Goods'. A report for the International Task Force on Global Puplic Goods. Available at: www.gpgtaskforce.org/bazment.aspx?page_id=175

Jacquet, P., and J.-M. Severino (2004). 'Prêter, Donner: Comment Aider?'. *Revue d'économie financière*, 74: 285-317.

Kapur, D. (2002). 'Do as I Say Not as I Do: A Critique of G-7 Proposals on Reforming the Multilateral Development Banks'. CGD Working Paper 16. Washington, DC: Center for Global Development.

Kharroubi, E. (2005). 'Déterminants de l'Accès aux Marchés Financiers'. Paris: Banque de France. Mimeo.

Lerrick, A., and A. Meltzer (2002). 'Grants: A Better Way to Deliver Aid'. Carnegie Mellon University, *Quarterly International Economic Report*, January.

Lewis, W. A. (1955). *The Theory of Economic Growth*. London: Allen & Unwin.

Lucas, R. (1990). 'Why Doesn't Capital Flow from Rich to Poor Countries?'. *American Economic Review: Papers and Proceedings*, 80 (2): 92-6.

Marchesi, S., and A. Missale (2004) 'What Does Motivate Lending and Aid to the HIPCs'. Sienna: University of Sienna. Mimeo.

McGillivray, M., and A. Ahmed (1999). 'Aid, Adjustment and Public Sector Behaviour in Developing Countries', *Journal of Asia-Pacific Economy*, 4: 381-91.

Naudet, J.-D. (2005). 'Les OMD et l'Aide de Cinquième Génération: Analyse de l'Évolution des Fondements Éthiques de l'Aide au Développement'. Working Paper 3. Paris: Agence Française de Développement.

Nunnenkamp, P., R. Thiele, and T. Wilfer (2005). 'Grants Versus Loans: Much Ado About (Almost) Nothing'. Kiel Economic Policy Papers 4. Kiel: Institute for World Economics.

Odedokun, M. (2003). 'Economics and Politics of Official Loans versus Grants. Panoramic Issues and Empirical Evidence'. WIDER Discussion Paper 2003/04. Helsinki: UNU-WIDER.

Odedokun, M. (2004). 'Multilateral and Bilateral Loans versus Grants: Issues and Evidence'. *World Economy*, 27: 239-63.

Powell, R. (2003). 'Debt Relief, Additionality, and Aid Allocation'. IMF Working Paper 03/175. Washington, DC: International Monetary Fund.

Radelet, S. (2005). 'Grants for the World's Poorest: How the World Bank Should Distribute Its Funds'. CGD Notes. Washington, DC: Center for Global Development.

Ramey, G., and V. A. Ramey (1995). 'Cross-country Evidence on the Link between Volatility and Growth'. *American Economic Review*, 85 (5): 1138-51.

Ratha, D. (2001) 'Complementarity between Multilateral Lending and Private Flows to Developing Countries: Some Empirical Results'. WB Policy Research Working Paper 2746. Washington, DC: World Bank.

Reisen, H., and J. von Maltzan (1999). 'Boom and Bust and Sovereign Ratings'. *International Finance*, 2 (2): 273-94.

Reisen, H., and M. Soto 19 (2001). 'Which Types of Capital Inflows Foster Economic Growth?'. *International Finance*, 4 (1): 1-14.

Rodrik, D. (1995) 'Why Is There Multilateral Lending?'. CEPR Discussion Paper 1207. London: Centre for Economic Policy Research.

Severino, J.-M., and O. Charnoz (2005). 'Les mutations impromptus: état des lieux de l'aide au développement'. *Afrique Contemporaine*, 213: 13-132.

Sugema, I., and A. Chowdhury (2005). 'Aid and Fiscal Development in Indonesia: The Case of a Lazy Government' CIES Discussion Paper 0506. Adelaide: Center for International Economic Studies, University of Adelaide.

Summers, R., and A. Heston (1988). 'A New Set of International Comparisons of Real Product and Price Levels Estimates for 130 Countries, 1950-1985'. *Review of Income and Wealth*, 34 (1): 1-25.

Summers, R., and A. Heston (1991). 'The Penn World Table (Mark 5): An Expanded Set of International Comparisons, 1950-1988'. *Quarterly Journal of Economics*, 106 (2): 327-68.

Young, L. (2002). 'Determining the Discount Rate for Government Projects'. New Zealand Treasury Working Paper 02/21. Wellington: New Zealand Treasury.