

DEBT AND NEW FINANCING IN LOW-INCOME COUNTRIES:

LOOKING BACK, THINKING AHEAD

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I. INTRODUCTION

Effective financing for development must reconcile the objective of meeting the large needs of poor countries with that of maintaining their debts at sustainable levels.

Recognizing the need to overcome extreme poverty and spur sustainable development in low-income countries (LICs), the international community has adopted the Millennium Development Goals (MDGs). As highlighted in the recent report of the U.N. Millennium Project (2005), attaining these comprehensive and ambitious poverty-reduction and development targets by 2015 will require substantial efforts by the recipients to improve their policies, as well as significant levels of external financing. At the same time, many poor countries have a history of severe debt problems, which imposed a heavy burden on their economies and ultimately led to adoption of the Heavily Indebted Poor Countries (HIPC) Initiative in 1996, its enhancement in 1999, and proposals for additional debt relief, more recently. The challenge for development finance going forward is therefore twofold: to ensure that poor countries receive sufficient funds to meet their ambitious development goals and, at the same time, to avoid sowing the seeds of a future debt crisis.²

A central question in this context is what form financial aid should take. The decision is ultimately one between pure grants or concessional loans—which combine a grant with a commercial component. While both have advantages and disadvantages, the main distinction is that for a given cost to donors, loans provide more upfront financing while grants avoid the risk of future debt problems. In light of this trade off, the decision about the appropriate combination of grants and loans is not straightforward, and will need to be tailored to country-specific circumstances.

¹ This paper should not be reported as representing the views of the IMF. The views expressed are those of the authors and do not necessarily reflect the views of the IMF or IMF policy. We thank Mark Plant for his insightful comments on an earlier draft.

² This challenge of balancing large financing needs with maintaining sustainable debt levels is also at the core of the LIC debt sustainability framework that is being developed jointly by the staffs of the IMF and the World Bank. See IMF and World Bank (2004a and 2004b).

As a general introduction into the issue, the paper consists of two parts. The first is an empirical backward-looking exploration of the debt dynamics in LICs to analyze the relevant channels that have led to debt accumulation (and reduction) in the past. The second part is a forward-looking theoretical examination of the pros and cons of grants versus loans. Both parts together may shed light on the various factors and circumstances that need to be considered to determine an appropriate mix of development financing on a country-specific basis.

II. EXPLAINING PAST TRENDS IN DEBT DYNAMICS

A simple debt dynamics equation provides a convenient way to examine how various factors affect the evolution of the debt ratio:

$$\underbrace{\frac{NPV_t}{X_t} - \frac{NPV_{t-1}}{X_{t-1}}}_{\text{change in debt ratio}} = \underbrace{\frac{(i_t - \varepsilon_t) NPV_{t-1}}{(1 + \varepsilon_t) X_{t-1}}}_{\text{endogenous debt dynamics}} + \underbrace{\frac{(1 - GE_t)}{x_t}}_{\text{multiplier}} \underbrace{(td_t - tr_t - fdi_t + \Delta r_t)}_{\text{financing gap}}$$

This equation, derived in Box 1, breaks down changes in the net present value (NPV) of debt-to-exports ratio into three main components:³

- The *external financing gap* is the factor that captures most directly the tension between debt sustainability and new financing. A positive gap—defined as a deficit in the trade and services account (*td*) that is not financed by grants and other current transfers (*tr*), equity inflows (*fdi*), or a reduction in foreign assets, including reserves (Δr)—adds to a country’s external debt.
- The *multiplier* determines the impact of a given financing gap, expressed in percent of GDP, on the NPV of debt-export ratio. It is derived by dividing the gap by the exports-to-GDP ratio (*x*) and multiplying by (*I-GE*)—where *GE* is the average grant element—to adjust for the concessionality of financing. Both low export ratios and small grant elements magnify the effect of the financing gap on the debt ratio.
- The *endogenous debt dynamics* describe the changes in the debt ratio that occur independently from new financing. They result from the difference between the (concessional) interest rate (*i*) and the growth rate of exports (ε) in the denominator of the debt ratio. The larger the initial debt ratio, the stronger this endogenous effect—

³ The NPV of debt-to-exports ratio is used for reasons of consistency with the HIPC Initiative, which applies a qualifying threshold of 150 percent for this ratio. While the above dynamics refer to total external debt, the HIPC Initiative applies to public and publicly guaranteed debt only, which is the bulk of external debt in most LICs.

Box 1. Representing Debt Dynamics in LICs

Underlying discussions of debt sustainability is a basic debt dynamics equation, derived from the balance of payments identity, with all variables expressed in U.S. dollar terms:

$$D_t = (1 + i_t)D_{t-1} + TD_t - Tr_t - FDI_t + \Delta R_t \quad (1)$$

where, D_t = nominal debt stock at the end of period t ;
 i_t = average effective interest rate in period t (interest payments in period t divided by the debt stock in the previous period);
 TD_t = combined deficit in the trade and services account;
 Tr_t = sum of official grants and other current transfers;
 FDI_t = net non-debt creating (i.e., equity) capital inflows; and
 ΔR_t = change in official reserves and other foreign assets (with a positive change implying an increase in reserves).

Equation (1) allows a very simple interpretation of a country's debt dynamics: its gross external debt increases ($D_t - D_{t-1} > 0$) if its current account deficit ($TD_t + i_t D_{t-1} - Tr_t > 0$) plus any reserve accumulation ($\Delta R_t > 0$) exceeds the level of net equity inflows (FDI_t).

Given the concessionality in loans extended to LICs, net present value (NPV) of debt is the more relevant metric for evaluation. Equation (1) can be transformed into this form by making use of the concept of the grant element, GE . Note that the grant element is defined as the difference between the debt stock and the NPV of debt, expressed in percent of the debt stock:

$$GE_t = \frac{(D_t - NPV_t)}{D_t} \Leftrightarrow D_t = \frac{NPV_t}{(1 - GE_t)} \quad (2)$$

Substituting in this manner for the nominal value of debt in Equation (1) yields:

$$\frac{NPV_t}{(1 - GE_t)} = (1 + i_t) \frac{NPV_{t-1}}{(1 - GE_{t-1})} + TD_t - Tr_t - FDI_t + \Delta R_t \quad (3)$$

Multiplying the above equation by $\frac{(1 - GE_t)}{X_t}$, where X_t denotes the dollar value of exports in period t , and ε_t the growth rate of exports, such that $X_t = (1 + \varepsilon_t)X_{t-1}$, leads to the following equation for the NPV of debt-to-export ratio in period t :

$$\frac{NPV_t}{X_t} = \frac{(1 + i_t)}{(1 + \varepsilon_t)} \frac{NPV_{t-1}}{X_{t-1}} \frac{(1 - GE_t)}{(1 - GE_{t-1})} + \frac{(1 - GE_t)}{X_t} (TD_t - Tr_t - FDI_t + \Delta R_t) \quad (4)$$

Assuming, for simplicity, that the grant element remains unchanged between periods $t-1$ and t , and denoting by lower-case letters ratios in percent of GDP (e.g., $x_t = \frac{X_t}{GDP_t}$), equation (4) can be

transformed into the following expression for the change in the NPV of debt-to-export ratio:

$$\frac{NPV_t}{X_t} - \frac{NPV_{t-1}}{X_{t-1}} = \frac{(i_t - \varepsilon_t)}{(1 + \varepsilon_t)} \frac{NPV_{t-1}}{X_{t-1}} + \frac{(1 - GE_t)}{x_t} (td_t - tr_t - fdi_t + \Delta r_t) \quad (5)$$

Similar expressions can also be derived in terms of GDP or revenue.

which is beneficial in “normal” times, when export growth exceeds the concessional interest rate, but works in the opposite direction—exacerbating an already high debt ratio—when export growth is very low or negative.

The equation implies that the debt dynamics in a given country are more favorable:

- the higher the growth rate of its exports relative to the (concessional) interest rate, with the effect being magnified when the initial debt ratio is large;
- the smaller its financing gap;
- the higher the concessionality of its debt; and
- the more export-oriented it is, i.e., the higher its share of exports in GDP.

The debt dynamics equation provides some interesting insights into past trends. Using data for 1993-2002 for a sample of 72 LICs, Table 1 encapsulates the average experience of a “representative” LIC.⁴

Table 1. Debt Dynamics in Low-Income Countries, 1993-2002 1/
(Annual Average Change in NPV of Debt-to-Exports Ratio)

	<i>Formula based</i>			<i>Actual Change 2/</i>	<i>Unexplained Changes 3/</i>
	NPV=100	NPV=150	NPV=300		
Endogenous dynamics	-5.0	-7.5	-15.0		
Multiplier times financing gap	5.0	5.0	5.0		
Total change in debt ratio	0.0	-2.5	-10.0	-17.8	-8.2
Memorandum items					
Multiplier, $(1-GE)/x$	2.2	2.2	2.2		
Financing gap (in percent of GDP)	2.3	2.3	2.3		

1/ Sample includes 72 of the low-income countries, defined as eligible for PRGF loans by the IMF.

2/ The actual average NPV of debt-to-exports ratio was around 294 percent over 1993-2002.

3/ Equivalent to the actual average change in the debt ratio per year minus the change implicit in the formula, calculated at the average NPV of debt-to-exports ratio of 294 percent (which is -9.7). Apart from data problems, the discrepancy can be explained, inter alia, by debt relief.

⁴ The debt dynamics of the “representative” LIC are obtained by computing cross-country averages for the individual variables of the debt-dynamics equation.

- The endogenous debt dynamics were, on average, debt reducing, as export growth rates (at 8.1 percent) exceeded the average interest rate of 2.7 percent. This implies a decline in the NPV of debt-to-exports ratio of as much as 15 percent a year for a debt ratio of 300 percent (close to the historical average of 294 percent) and 7½ percent for debt ratios at the HIPC threshold of 150 percent.
- The average financing gap during the past ten years of about 2¼ percent and the multiplier of similar magnitude implied average annual increases in the NPV of debt-to-exports ratio of 5 percentage points.
- Combining both effects, the representative country should have experienced favorable debt dynamics, even without debt relief, as long as the NPV of debt-to-exports ratio remained above 100 percent. Indeed, with an initial average debt ratio of 294 percent, the decline should have been quite rapid, at around 10 percent of exports annually.

Perhaps contrary to common beliefs, actual debt ratios in LICs declined, on average, by 18 percent annually during the ten years up to 2002. The additional drop beyond what is

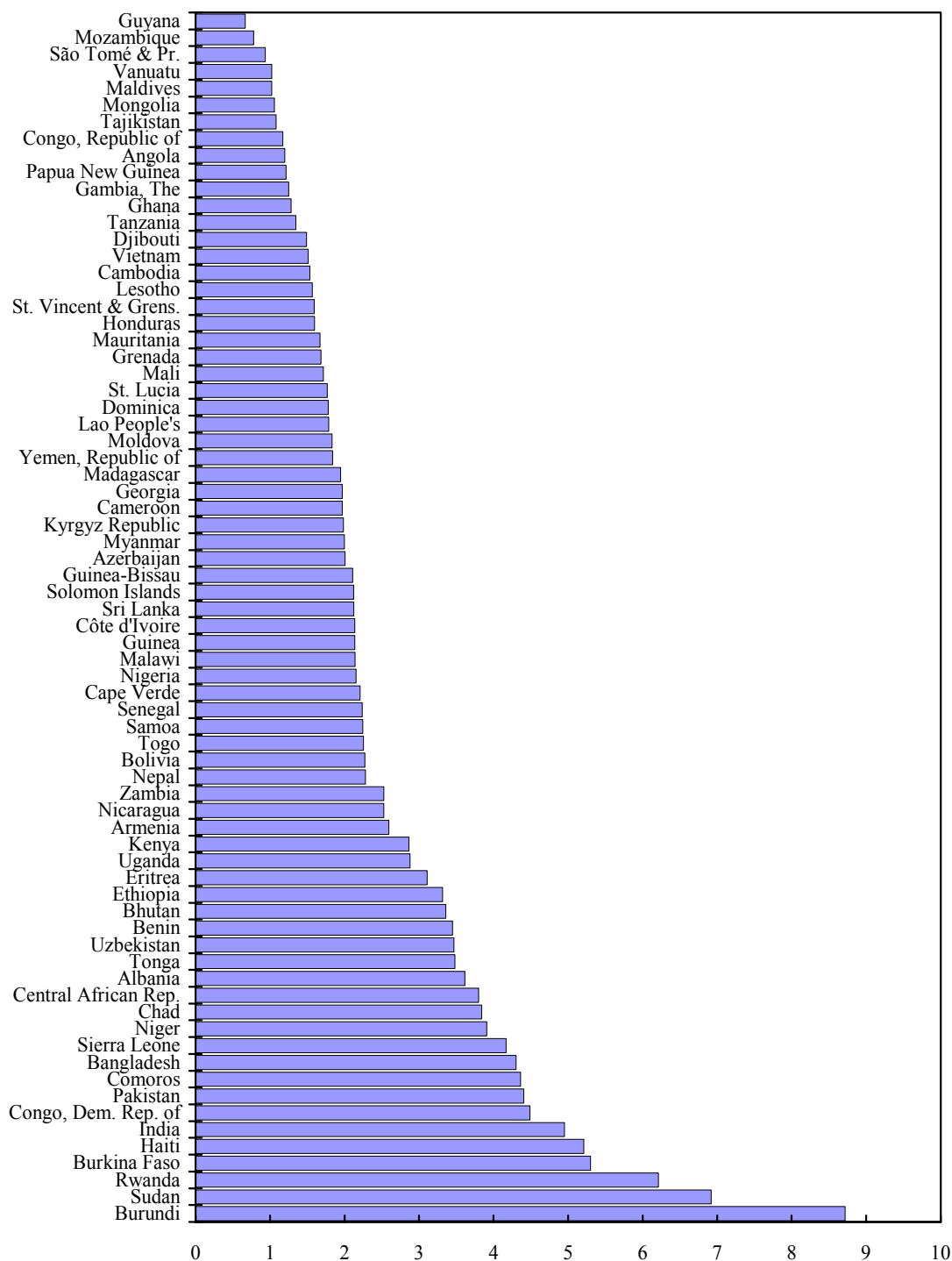
explained by the debt equation reflects mainly the effect of debt relief, including through the HIPC Initiative. This obviously begs the question of why debt relief was necessary, and what explains the widespread perception that debt problems were not likely to be resolved on their own. First, debt ratios were very high in the early 1990s. Therefore, even if the trend was favorable, debt-service payments were crowding out priority spending in other areas. Second, the analysis of a representative country

Table 2. Debt Dynamics in Low-Income Countries, 1993-2002
(In percent of GDP, unless otherwise indicated)

	Cross-country average	Cross-country Std. dev.
Interest rate, in percent (<i>i</i>)	2.7	2.7
Export growth, in percent (<i>ε</i>)	8.1	7.5
Grant element, in percent (<i>GE</i>)	29.2	12.9
Export ratio (<i>x</i>)	32.5	19.1
Trade and services deficit (<i>td</i>)	12.9	14.2
Transfers (<i>tr</i>)	8.4	8.5
FDI (<i>fdi</i>)	3.0	4.2
Increase in reserves (<i>Δr</i>)	0.8	2.9

hides much of the variation across countries. As shown in Table 2, differences across countries measured by standard deviations of the relevant parameters are high. The multiplier in particular—which indicates sensitivity of a given country’s debt-to-exports ratio to changes in the financing gap—varies widely (Figure 1). Depending on the concessionality of financing available to the country and the relative size of its exports base, an identical current account shock (in percent of GDP) may have vastly different outcomes on the NPV of debt-to-export ratio. In Guyana, for instance, a one percentage point of GDP increase in the external financing gap leads to a rise in the debt-to-export ratios by only ¾ percentage points; in Burundi, on the other hand, the ratio rises by nearly 9 percentage points. Indeed, all five countries that experienced increases in their debt ratios of 200 percentage points or more over

Figure 1. Debt-to-Export Multipliers in LICs 1/



Source: IMF, World Economic Outlook; and World Bank, Global Development Finance.

1/ The multiplier measures the percentage point increase in the debt-to-exports ratio, due to a 1 percentage point of GDP increase in the external financing gap. It is defined as:

$(1 - \text{grant element}) / \text{export-to-GDP ratio}$, using 2001 grant elements and average export-to-GDP ratios over 2000-02.

the 10-year period (Burundi, Central African Republic, Comoros, Eritrea, and Rwanda) had above-average multipliers.⁵

Analysis of the components of the debt dynamics equation, as well as a cursory examination of variation among countries, reveals that borrowing at low concessional rates alone does not ensure stable or declining debt ratios. Although past trends suggest favorable dynamics for LICs as a group, several cautionary notes arise:

- Efforts to attain the MDGs in short order will undoubtedly lead to high financing needs. If these are not met by additional grants, the debt ratios are likely to deteriorate, with large variations across countries.
- As long as the export base is small, debt sustainability remains particularly fragile; a small shock could derail the debt dynamics, even with loans at highly concessional terms. The same holds for revenues in reference to the debt-to-revenue ratio. This underscores the need to strengthen export (and revenue) bases as a primary insurance against deteriorations in the debt dynamics.
- Aid flows tend to be volatile, particularly in highly aid-dependent countries, as well as procyclical (Bulíř and Hamann, 2003). These fluctuations further underscore the fragility of a country dependent on external resource flows to finance development activities, and emphasize the need for prudence in debt management.

Based on these considerations, the goal going forward would be to enable large upfront financing to attain the ambitious development targets without undermining debt sustainability. The remainder of the paper discusses how the terms of financing—that is, the mix between grants and loans—might be tailored most appropriately to support that objective.

III. GRANTS OR LOANS

The discussion about the appropriate mix of grants and loans goes back to the classic economic problem of scarcity. Grant resources available for development finance are limited, but for a given resource cost to donors, more upfront resources can be mobilized if aid is provided in the form of concessional loans (Box 2). Thus, pure grants are a corner solution, within a spectrum of concessional finance. When grants are “leveraged,” however—i.e., distributed in the form of (larger) concessional loans—the additional resources are implicitly provided on commercial terms (equivalent to the NPV of the loan), which risks creating future debt-servicing problems. The decision donors have to make is,

⁵ The comparison of changes in the debt ratio is somewhat misleading to the extent that some countries have benefited from sizeable debt relief.

Box 2. Concessional Loans and Grants: Some Basic Features

Any concessional loan can be broken down into a commercial component, provided at market rates, and a grant component. The commercial component is the NPV of the loan, derived as the stream of debt-service payments, discounted by the market rate. The grant component (G) is the difference between the nominal loan amount (L) and the NPV (i.e., $L = G + NPV$), and reflects the cost to the donor of providing the concessional loan. Thus, a donor can either provide a pure grant of, say, \$100, or “leverage” the grant through additional commercial resources, for example, by providing a loan of \$200 with a grant element of 50 percent and a corresponding NPV of \$100. While the cost to the donor is the same (\$100), the loan allows a larger provision of resources upfront (\$200 instead of \$100), but these additional resources are implicitly provided on commercial terms, potentially undermining the country’s debt-servicing capacity.

In theory, a country is better off receiving a grant than a concessional loan with an identical grant component, if the rate of return on its investment is lower than the market rate (i.e., the discount rate used to derive the grant element). This is illustrated in the chart below, assuming that the resources are invested in a 40-year project with a constant rate of return of 3.5 percent. At a discount rate of 5 percent, this implies an NPV of 75 cents for every invested dollar.

Comparison of Loan- and Grant-Financed Project (Rate of return above concessional interest rate, but below discount rate)	
I. Loan-Financed Project 1/	II. Grant-Financed Project 1/
Investment = 100, rate of return = 3.5 percent,	Investment = 50, rate of return = 3.5 percent
<div style="border: 1px solid black; width: 100px; height: 30px; margin: 0 auto; text-align: center;">NPV = 75</div>	<div style="border: 1px solid black; width: 100px; height: 30px; margin: 0 auto; text-align: center;">NPV = 37.5</div>
Concessional loan = 100, interest rate = 2.1 percent 2/	Grant = 50
<div style="border: 1px solid black; width: 100px; height: 30px; margin: 0 auto; background-color: #cccccc; text-align: center;">NPV = 50</div>	NPV = 0
Net return	Net return
<div style="border: 1px solid black; width: 100px; height: 30px; margin: 0 auto; text-align: center;">NPV = 25</div>	<div style="border: 1px solid black; width: 100px; height: 30px; margin: 0 auto; text-align: center;">NPV = 37.5</div>

The left-hand side shows the pay-off resulting from an **investment of \$100, financed by a concessional loan** with a grant element of 50 percent. In this case, the net return is \$25 (i.e., \$75 investment return minus \$50 NPV of debt service).

The right-hand side shows the case of a pure **grant-financed investment of \$50** (implying the same donor cost).

1/ Assumes a discount rate of 5 percent.

2/ Assumes a 40-year maturity period, with a bullet payment at the end.

Although the gross return of the project is lower at \$37.5, there is no debt service due, implying that the country is better off with the smaller grant-financed project. This result holds, as long as the rate of return on the project is lower than the discount rate—though there may be other considerations beyond the direct (financial) rate of return, such as positive externalities and social considerations, that could qualify this result arguing for larger investments.

Finally, it should be stressed that the country is still better off with the concessional loan than it would be with no financing at all. As long as the return on the project exceeds the concessional interest rate (2.1 percent in the example), the pay-off is positive—though the financially wiser choice would still be a lower investment financed by a grant.*

* Note that the example assumes a synchronized amortization and project-liquidation schedule (in this case at the end of the period) and no depreciation. If amortization payments occurred earlier, and depreciation was factored in, the implicit rate of return on the project would need to be higher than the concessional interest rate.

therefore, how to distribute the scarce aid resources most efficiently, by weighing the benefit of large upfront financing against the risk of future debt problems.

A. The Case for Grants

Advocates of a grants-only approach stress the negative experience with loans to finance development.⁶ They argue that the history of lending to LICs, even on highly concessional terms, has been marred by failure, as evidenced by a pervasive “lend-and-forgive” cycle. Grants, by their very own nature, carry no inherent debt sustainability risk—although the debt-to-exports ratio, as discussed above, is still vulnerable to adverse movements in exports. Many grant advocates argue further that the ultimate need for debt relief is merely an opaque way of providing grants *ex post*.

There are also a number of factors specific to LICs that caution against the use of loans for development finance. The need to repay a loan requires production of tradable goods or services, which could be exported or used to replace imports, in order to generate the necessary foreign exchange (the transfer problem). Many projects, particularly in the social area, may not have an immediate tradable output, making them unsuitable as candidates for loans. In addition, returns on many projects accrue only over a very long period, are highly uncertain, and may not be easily captured by the borrowing government—either directly or through additional tax revenue. In these circumstances, grants would seem to be the appropriate choice.

B. The Case for Loans

Providing grants in lieu of loans, however, without an offsetting reduction in the amount of aid, may have important implications for the distribution of aid between current and future recipients. Given that loans are repaid, they generate a pool of future resources to be on-lent to other countries—allowing concessional loans to finance more projects over time than their grant equivalent.⁷ Foregoing these reflows, while providing the same financing today, would require a massive ratcheting up in donor commitments in the future to institutions such as the International Development Association (IDA) of the World

⁶ The Meltzer Commission report (2000) recommended relying more on grants for development finance, with similar calls echoed recently by Bulow and Rogoff (2005), who highlight the deleterious effects of loan-financed development expenditure.

⁷ Cline (2003) cites the “economics of charity” reasoning of Schmidt (1964) to argue that loans are better than grants. However, this argument is based on the assumption that lenders are able to charge an interest rate that is not only below the rate of return on investment in the recipient country but also above the corresponding rate in the donor country. It is therefore not strictly applicable to development finance at concessional rates—though the general idea remains applicable to the commercial component of a concessional loan.

Bank to match the level of currently envisaged resource flows.⁸ Thus, a switch from loans to grants of the same magnitude would increase uncertainties about the future availability of aid, as intentions of current donor governments regarding future grant flows are not enforceable on future generations of policymakers.

The leverage of foreign aid through the use of concessional loans is also justified in the presence of market-information externalities. Most LICs are effectively cut off from the international capital markets, and the few that have sovereign ratings, face high risk premia on market borrowing. To the extent that these high premia reflect limited market information, foreign aid can act like a bridge to full-fledged market participation. Models of information externalities like that of Caplin and Leahy (1998) could be reinterpreted in this context—markets do not know if particular projects in developing countries are worthwhile, and financing from development agencies makes their worth clearer and acts, over time, to bring the risk premium down.⁹ The aforementioned leveraging power of concessional loans implies that more projects may be financed across countries, thus enabling better transmission of such information content.

Incentive effects may also favor the use of loans as instruments of development finance. Advocates of loans have argued that the need to service them makes recipient countries more cautious about the use of these funds. In a dynamic setup, access to loans may also induce LICs to develop their debt management capabilities, further preparing them for participation in the international capital markets. Additionally, loans may be used to “cajole” recipient countries into making appropriate policy changes (Odedokun, 2004).¹⁰

⁸ According to the IDA website (<http://www.worldbank.org/ida/>), in 2003 alone, India borrowed \$686.6 million. Given the grace period and long maturity of IDA loans, debt service on these loans will be continuing for a long time. Similarly, China, which “graduated” from IDA in 1999, will continue servicing its debt for decades to come.

⁹ Caplin and Leahy’s (1998) model explores how information externalities may result in suboptimal investments for a long period of time and how, once information about the potential of that market is revealed, economic activity picks up. Their inspiration was the rejuvenation of the Lower Sixth Avenue of New York City, once Bed, Bath & Beyond—a large consumer goods store—established shop there, revealing information about potential consumer base in that area. The model can be usefully interpreted in the context of LICs, where aid-financed investments reveal information about comparative advantage, thus leading to economic development and increased market access on reasonable terms.

¹⁰ Advocates of the grants approach—see Meltzer and Sachs (2000)—argue that grants would effectively provide a stronger incentive effect if they are designed such that funding is provided *ex post*, after an audit has been completed to make sure that a given project attained its objectives. Such incentives, they argue, would also lead to more selectivity in terms of projects chosen, reducing “loan-pushing” by donors. However, given that resources are

(continued)

Finally, the use of loans to leverage grant resources may be justified even if they often fail *ex post*. As concessional loans offer a way to convert limited grant resources into higher upfront financing, they enable LICs to undertake a larger number of projects than a grants-only approach would permit. Assuming that there are many viable projects in the developing world, such a leveraging strategy may well be appropriate, even if some investments eventually fail, and the country requires debt relief as a result. As long as successful projects—that could not have been financed through grants alone—provide the reflows to cover debt relief on failed projects and, at the same time, reduce future aid dependence, both recipients and donors are likely to benefit. In a sense, the additional financing that is generated by providing loans instead of grants can be interpreted as an investment by donors into a mutual fund that pools the risks across countries. This reasoning qualifies the conclusion of grant advocates that the observed lend-and-forgive cycle warrants a shift from loans to grants—though its validity depends critically on whether the prospect of debt relief itself alters recipient countries’ behavior. If there is moral hazard involved—such that efforts are reduced and funds are wasted deliberately in anticipation of debt forgiveness—then the lend-and-forgive cycle is indeed a problem, arguing for a more conservative approach to loans and a larger use of grants. Depending on the importance of moral hazard relative to bad luck in explaining debt-servicing problems, an appropriate mix of grants and (concessional) loans could be conceived.

In sum, a corner solution, consisting of a grants-only approach, is unlikely to be the optimal choice. Given the need to finance development expenditure with a limited pool of grant resources, the optimal outcome likely includes some combination of loans and grants. Determining the right mix, that leverages available grant resources with the appropriate share of financing on commercial terms, however, requires a careful consideration of the specific circumstances.

C. Project-Based Approach

Based on the above considerations, a case could be made for tailoring the provision of grants and loans to the characteristics of individual projects. Instead of providing concessional loans, aid would be “unbundled” to finance through grants only those projects with high social value but uncertain or delayed returns—such as investment in education and health, including financing for HIV/AIDS medication and malaria vaccines. Other projects that are likely to generate sufficiently high and immediate financial returns to the government, including a potentially wide range of infrastructure investments, could then be financed through loans on commercial terms to avoid an overall reduction in financing. Such a proposal, however, ignores that money is fungible. Unless there is perfect alignment

generally required upfront, this approach may result in many projects not being undertaken at all.

between the preferences of donors and recipients, some projects that would have been undertaken in any event, financed by government funds, would be put forth for grant financing. The remaining savings could then be used for something less productive (or desirable from the donors' point of view), such as the purchase of another plane for the unprofitable national flag carrier. Thus, the split between grants and loans based on projects becomes a purely theoretical device, while it is ultimately the overall resource envelope and the terms of the combined financing package that matters.

The problems of fungibility associated with project loans may be alleviated by resorting to a particular form of targeted budget support—though not without creating other problems. Devarajan and Swaroop (1998) make a proposal for a Public Expenditure Reform Loan (PERL), under which governments would present their development expenditure plan to the World Bank (or, for that matter, other development agencies) which would then provide assistance (in the form of loans or grants, depending on the context) based on the merit of the proposals. This form of budget support, however, brings with it its own set of problems. By giving donor agencies a mandate over a much wider set of projects—the whole development agenda of the government, in fact—it risks compromising any domestic ownership. Moreover, the widened scope may greatly limit the ability of donors to monitor the use of development funds, thus undermining the purpose of this proposal, which is to overcome a misalignment of recipient with donor interests.¹¹

D. Country-Specific Approach

Very few academic studies have systematically laid out economic rationales for the appropriate levels of aid concessionality, but those that have come to similar conclusions. In terms of empirical work, Odedokun (2004) examines the effect of concessionality on borrowing country's fiscal discipline and the extent of borrowing. He finds that loans are better suited than grants in promoting recipient government's budgetary discipline. He also finds that the rate of borrowing is positively correlated with the degree of concessionality, whether through longer grace periods or through lower interest rates. Cordella and Ulku (2004) build a theoretical model in the presence of conflicts between donors' and recipients' objectives. They conclude that the level of loan concessionality that maximizes growth depends on the quality of a recipient country's policies and institutions, the level of initial income, and the level of existing debt obligations. Their results imply that more aid should be provided in the form of grants, if the country already has high external debt ratios, is very poor, and has weak policies and institutions. Finally, using a dynamic contracting model where concessional lending is feasible up to a cutoff point (akin to IDA graduation), Koeda (2004) argues that—as long as over-borrowing in the earlier periods of highly concessional financing is contained—optimal concessional lending is better than its

¹¹ Using a theoretical model, Cordella and Dell'Ariccia (2003) argue that budget support is preferable to project aid if total aid is small relative to the recipient's own resources and when the objective functions of the two parties are aligned.

grants counterpart. When the caveat is not met, however, the country remains permanently near the cutoff point, remaining aid dependent.

A number of studies have gone a step further and developed practical guidelines for the provision of aid. Collier (2005), for example, bases his analysis on the absorptive capacity of aid—described in Collier and Dollar (2001, 2002)—and derives a “poverty-efficient allocation of aid.” Within that allocative envelope comes the division between loans and grants, with an increasing share of loans, and ultimate “graduation” to market financing, as a country develops. Radelet and Chiang (2003) propose an algorithm—consistent with the theoretical propositions of Cordella and Ulku (2004)—for determining aid allocation, based on the need for financing and the prospects for growth. The need would be ascertained by a range of economic and social indicators, while the prospects for growth could be estimated by looking at historical growth rates, “conservative” projections, and indicators of the quality of policies and institutions. Both need and prospects for growth then determine the composition of financing, with poorer countries receiving more of their financing in the form of grants, while faster-growing countries, and those with sound policies and institutions, would receive more in the form of loans. They modify these “clusters” with two additional qualifications: countries that are subject to volatility (in terms of export prices, political circumstances, exchange rates, etc.), and those with high debt levels, would receive more funds in the form of grants.¹²

IV. CONCLUSIONS

While the debate on the appropriate form of development finance and the trade-off between large financing needs and debt sustainability concerns is far from resolved, the above discussion suggests the following preliminary conclusions:

- Debt-to-exports ratios of LICs have fallen significantly over the past decade. While part of this trend is due to debt relief, it also reflects favorable debt dynamics, as a result of exports growth in excess of low concessional interest rates.
- The overall favorable trend, however, marks large differences across countries. Due to low and volatile export bases, as well as insufficient grants and FDI to finance large trade deficits, some LICs have seen a significant increase in their debt ratios, despite highly concessional financing. This highlights not only the fragility of the debt dynamics, but also the case for adopting a country-specific approach to development financing.

¹² This approach is very similar to that of the LIC debt sustainability framework which is being developed jointly by the IMF and the World Bank. The framework assesses a country’s risk of debt distress by comparing its debt ratios—both in normal times and under stress—with indicative thresholds that depend on the quality of the country’s policies and institutions.

- While a grants-only approach has clear advantages from the perspective of debt sustainability, it also has a number of important disadvantages. With competing claims on scarce donor resources, such an approach would imply a reduced level of aid—either for current or future recipients—relative to a mixed financing approach.
- A tailoring of loans and grants to individual projects has some theoretical appeal, but ignores the fungibility of aid resources. A potentially more promising approach, supported by empirical evidence, favors a tailoring of aid to individual country characteristics. Under this approach, the level of aid should be based on both need and absorptive capacity, while the terms, i.e., the leveraging of grants through commercial loans, would be guided by a country's growth prospects and, relatedly, the quality of its policies and institutions.

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