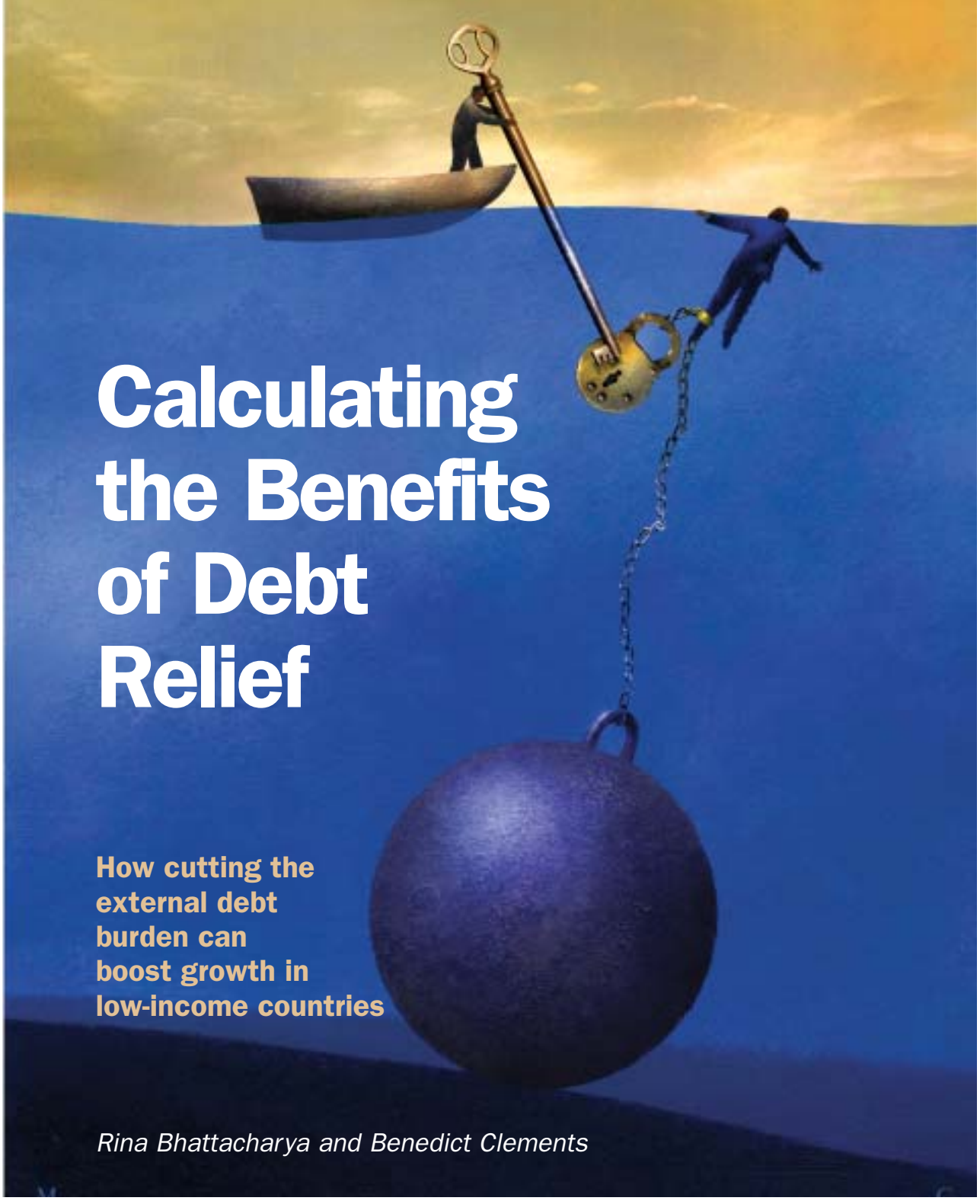


Calculating the Benefits of Debt Relief

How cutting the external debt burden can boost growth in low-income countries

Rina Bhattacharya and Benedict Clements

A LARGE number of low-income countries are now receiving debt relief under the Heavily Indebted Poor Countries (HIPC) and Enhanced HIPC initiatives, launched by the IMF and the World Bank in 1996 and 1999, respectively. These initiatives aim to cut the debt burdens of some of the world's poorest countries to help them combat poverty. But how do lower debt burdens and reduced debt service payments translate into higher growth and better living standards?

Economists have often argued that high external debt makes it more difficult for countries to achieve the Millennium Development Goals (MDGs). High debt service absorbs resources that could be used for essential spending on poverty reduction, and diverts resources away from public investment. However, despite substantial research into the impact of external debt on growth in general, surprisingly few studies have focused on low-income countries, and the HIPCs in particular. Because most low-income countries do not have access to

international capital markets, the impact of external debt on growth can be different in low-income and emerging market countries. The channels through which debt affects growth may also differ. Further, low-income countries are usually net recipients of concessional loans and aid, even when debt service is high, suggesting that the adverse impact of debt service on growth may not be large.

We assessed the impact of external debt on growth in low-income countries and the channels through which these effects are realized. Special attention was given to the indirect effects of external debt on growth through its impact on public investment because of the statistically significant influence of public investment on economic growth.

Debt and growth in theory

What does economic theory have to say about the relationship between the stock of external debt and growth? External debt can potentially help foster higher economic growth, provided that it is used to help finance investment. In light of the diminishing returns to capital, however, the net benefits of additional investment could decline as debt increases. In addition, high levels of debt may hamper growth through the effects of "debt overhang." When there is a debt overhang, a country's debt exceeds its expected ability to repay, and expected debt service is likely to be an increasing function of the country's output level. Thus, some of the returns from investing in the domestic economy are effectively "taxed away" by foreign creditors. As a result, investment by both domestic and foreign investors—and thus economic growth—is discouraged. A high level of external debt can reduce a government's incentive to carry out important structural and fiscal reforms if it anticipates that foreign creditors will reap most of the benefits. Debt overhang can also depress growth by increasing uncertainty about the actions and policies that the government will resort to in order to meet its debt service obligations.

The theoretical literature thus suggests that foreign borrowing has a positive impact on investment and growth up to a certain threshold level; beyond this level, however, its impact is adverse, giving rise to a "Laffer curve"-type relationship between external debt, on the one hand, and investment and per capita income growth on the other (see "External Debt and Growth," *F&D*, June 2002, p. 32).

External debt service (in contrast to the total debt stock) can also potentially affect growth by crowding out private investment or altering the composition of public spending. Other things being equal, higher debt service can raise the government's interest bill and the budget deficit, reducing public savings; this, in turn, may either raise interest rates or crowd out credit available for private investment. Higher debt service payments can also squeeze the amount of resources available for infrastructure and human capital formation, with further negative effects on growth.

Filling a gap

But existing empirical research does not provide a clear picture of how debt affects growth, particularly in low-income countries. Our research attempts to fill this gap. We start by estimating an empirical equation for per capita income growth, based on data for 1970–99 for a group of 55 low-income countries classified as eligible to receive funds under the IMF's Poverty Reduction and Growth Facility (PRGF). The variables in the equation include lagged per capita GDP; the secondary school enrollment rate; private investment as a share of GDP; public investment as a share of GDP; and a measure of the openness of the economy to foreign trade.

"Debt appears to affect growth via its effect on how efficiently resources are used, rather than by discouraging private investment."

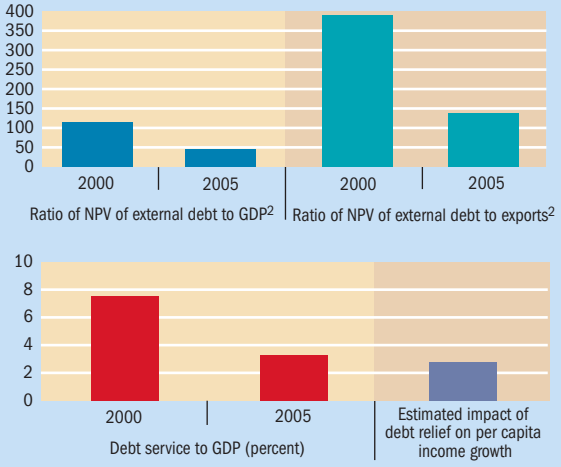
We add to the traditional growth equation different measures of external public and publicly guaranteed debt to assess the effect of this debt on growth. These measures are the face value of the stock of external debt as a share of GDP; the net present value of the stock of external debt as a share of GDP; the face value of the stock of external debt as a share of exports of goods and services; and the net present value of this debt as a share of exports of goods and services. The net present value takes into account the degree of concessionality of the debt. To capture the interaction between growth and debt, an appropriate econometric technique known as *generalized method of moments* is used.

Our results suggest that high levels of debt can indeed depress economic growth in low-income countries, but only after it reaches a certain threshold. This threshold is estimated at about 50 percent of GDP for the face value of external debt and about 20–25 percent of GDP for its estimated net present value. For the external debt indicators expressed as a ratio to exports, the results are somewhat weaker, but they indicate a threshold level for the net present value of external debt of about 100–105 percent of exports. Moreover, debt appears to affect growth via its effect on how efficiently resources are used, rather than by discouraging private investment, since the results indicated that the latter does not have a statistically significant impact on growth in this group of countries. The empirical estimates thus provide some support for the debt overhang hypothesis.

Our results also suggest that debt service has no direct effect on real per capita GDP growth. One reason why debt service may be insignificant is that its effect is realized through its impact on public investment, which is included as an explanatory variable in the model and is thus held constant. We

Breathing space

The 14 most heavily indebted countries helped by the Enhanced HIPC Initiative[1] could see their annual per capita income growth boosted by about 2.8 percentage points a year because of the debt relief they are receiving.



Source: Country authorities and IMF staff estimates.
[1]Comprises Cameroon, The Gambia, Ghana, Guinea, Guinea-Bissau, Guyana, Malawi, Mauritania, Nicaragua, Niger, São Tomé and Príncipe, Senegal, Sierra Leone, and Zambia.
[2]NPV is net present value.

explored this possibility in greater detail by estimating a public investment equation and looking at the impact of both the stock of external debt and the external debt service ratio.

The empirical results provide support for the hypothesis that higher debt service crowds out public investment: under most formulations of the model, debt service has a statistically significant negative effect on public investment. The relationship appears to be nonlinear, with the crowding-out effect intensifying as the ratio of debt service to GDP rises.

How significant is the crowding-out effect? Under linear formulations of the model, the results indicate that for every 1 percentage point of GDP increase in debt service, public investment declines by about 0.2 percent of GDP. The modest size of this coefficient is somewhat surprising and indicates that high debt burdens have not had a very large effect on public investment in low-income countries. These results suggest that debt relief on its own cannot be expected to lead to large increases in public investment. In most cases, it instead leads either to greater public consumption, or—if used for deficit reduction or lower taxes—to higher private consumption or investment.

Policy implications

A high stock of debt tends to depress economic growth in low-income countries. This has important implications for the impact of debt relief on growth in the HIPCs. But how big are these effects?

Consider the case of the 14 most heavily indebted HIPCs (in terms of debt service payments-to-GDP ratios) in 2000 (see chart). The net present value of external debt for these countries is projected by the IMF to fall from over 113 percent of GDP in 2000 to just under 45 percent of GDP in 2005. Our results suggest that this sharp reduction would directly add about 2.8 percentage points to annual per capita income growth. At the same time, the average ratio of debt service to GDP in these countries is projected to fall from 7.5 percent to 3.3 percent over the same time period. Calculations using the results from the best-fitting regression suggest that this would increase public investment by 0.5–0.8 percent of GDP and indirectly raise real per capita GDP growth by 0.1–0.2 percent annually. Moreover, if a larger share of debt relief were channeled to public investment, the impact on annual per capita income growth would be correspondingly higher. Under all scenarios, greater public investment only bolsters growth if matched by other revenue and expenditure measures that keep the budget deficit from rising.

These results have important implications for the design of adjustment programs in countries receiving debt relief. Reducing the stock of debt alone can have a significant positive direct impact on per capita income growth in the most heavily indebted poor countries. Cutting debt service obligations can also provide breathing space for raising public investment. To further strengthen the link between debt relief and growth, countries could consider allocating a larger share of this relief to productive public investment than in the past. ■

Rina Bhattacharya is an Economist in the African Department and Benedict Clements is a Deputy Division Chief in the IMF's Fiscal Affairs Department.

This paper is drawn from Benedict Clements, Rina Bhattacharya, and Toan Quoc Nguyen, "External Debt, Public Investment, and Growth in Low-Income Countries," Chapter 5 in Helping Countries Develop: The Role of Fiscal Policy, *ed. by Sanjeev Gupta, Benedict Clements, and Gabriela Inchauste (Washington: International Monetary Fund, 2004).*

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