

Making Fiscal Space Happen!

Managing Fiscal Policy in a World of Scaled-Up Aid

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I. Introduction

For many low income countries (LICs), the commitment of the G8 to double aid flows by 2010 offers the prospect of a substantial expansion in the share of their budget financed from external sources. Some increase in fiscal space has already emerged from the Multilateral Debt Relief Initiative (MDRI), freeing resources previously used for debt service. Part of the increase in aid will undoubtedly come in the form of general budget or sectoral support. Other increases may come from support for specific projects or programs.

Managing these inflows can pose important challenges for governments seeking to exploit the potential for greater fiscal space (Heller, 2005a,b). Though a substantial increase in flows has still not materialized, it is nevertheless valuable to consider, in anticipation, how governments should respond to such challenges as:

- **Realizing a spending path aimed at the Millennium Development Goals (MDGs):** Countries are being urged to mount ambitious spending programs to achieve the MDGs. Yet the financing gap between needs and potential aid commitments still seems large and often, donor priorities may emphasize expenditure programs that LIC governments assign a low priority in terms of achieving the MDGs.. Given this prospective financing gap and differing expenditure priorities, how much should governments scale up their spending programs?
- **Determining how much to borrow:** The MDRI has reduced external debts, leading some countries to consider borrowing for infrastructure investments. What factors should influence the decision to borrow?

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- **Managing the transition path to self-reliance:** How can LICs ultimately graduate from dependency on aid while still maintaining scaled-up expenditure programs?
- **How to coordinate monetary, fiscal, and exchange rate policies** in order to absorb higher aid and neutralize the impact of aid volatility, while still maintaining macroeconomic stability?
- **How can governments limit the risks associated with the greater reliance on external assistance in the financing of social service programs (particularly for HIV/AIDS treatment)?** Such programs additionally may be difficult to curtail in the event of aid shortfalls. Should governments expand their spending programs in spite of the limited time frame over which donors make aid commitments? Are there potential risks in expanding expenditure programs associated with reliance on grant finances that are not long-term in nature?

The challenge of exploiting effectively the potential for additional fiscal space has to be shared between donors and LICs. Actions by donors in terms of increased predictability, harmonization, and alignment can make the task of LIC decision makers easier and less costly. But LICs still must consider how to tailor their fiscal policies to respond to the challenges of scaled-up aid and how to strengthen their fiscal institutions to manage higher spending programs.

This paper offers a perspective on how LICs and the donor community can address these challenges. Section II considers how LICs should manage fiscal policy in a scaled-up aid environment, including issues of fiscal, monetary, and exchange rate policy coordination. Section III examines approaches to fiscal risk management. Section IV analyzes how a strengthening of institutions can facilitate fiscal policy formulation in a high aid environment, and section V offers concluding thoughts.

II. Setting the appropriate fiscal policy framework

A. Towards a more ambitious medium-term fiscal framework (MTFF)

The HIPC initiative encouraged countries to formulate Poverty Reduction Strategy Papers (PRSPs)—detailed multi-year, multi-sectoral strategies to raise growth and meet the MDGs. Countries were expected to formulate a MTFF to map out the key fiscal targets guiding budgetary policy in the current fiscal year, with some perspective on the budget in subsequent years. The criteria for a well-formulated MTFF would include:

- **sustainability:** a realistic prospect that a smooth scaling up of a government's expenditure program can be sustainably financed;
- **a smooth and well-sequenced expenditure path,** particularly for social sector programs, taking account of the operations and maintenance (O&M) implications of new investments;

- **a reasonable sectoral balance**, attuned both to achieving rapid economic growth and making progress on the MDGs; and a
- **strengthened domestic revenue performance** that promotes eventual graduation from aid dependency.

The difficulty for countries is to reconcile the desire for ambitious spending programs with the reality that total aid to a country remains insufficient and that few donors can make long-term commitments of aid. Hard commitments by donors for the out-years of the budget horizon typically diminish. In order to assure a manageable debt position and minimize exposure to risk, governments have adopted a conservative posture (usually endorsed in IMF-supported programs) as to the pace at which the overall budget would expand.

With the recent infusion of increased aid in some social sectors (particularly for health) and the prospect of a further expansion of aid, LICs are now being urged to mount ambitious spending programs that require financing beyond immediate aid commitments. Jeffrey Sachs in particular has called on the IMF and the World Bank to work with countries to develop and cost comprehensive strategies to achieve the MDGs.² Such “needs-based” strategies would illuminate the “financing gap” to be filled by the donor community by 2015 in order to realize the MDGs. Sachs equally argues that the IMF should support governments by using an MTFF *consistent* with a needs-based MDG scenario.

In this new aid environment, fault can be found with both the strategy advocated by Sachs and the approach traditionally used by countries in the context of IMF-supported programs.. The Sachs approach is useful for advocacy purposes, clarifying the financing needed to reach the MDGs. But for the operational programming of fiscal policy, a government’s spending programs in individual sectors must be based on relatively firm expectations that financing will indeed be available. In contrast, the “realistic” IMF approach, which involves only taking account of hard financing commitments by donors, can be criticized as not taking account of a prospective global environment of enhanced aid. Relying only on hard commitments will always tilt against an expansion in capacity, especially in social sector programs. This is particularly problematic for aid that finances vertical disease programs, where sustainable financing is critical.

Given that the major industrial nations have pledged an expansion in overall aid flows, should LICs assume that the external resources will indeed be forthcoming and that they should program expanded spending programs? If they do so, how should they balance the gains from a more ambitious scaling up approach with the losses that would arise if the additional aid is not forthcoming? **This paper advocates an MTFF that falls between the two camps.** It advocates a more ambitious medium-term perspective than would typically be prescribed by the IMF in order to take advantage of the prospect of greater donor assistance.

² This appeal was ratified at the UN General Assembly in the Fall of 2005, which called on LICs to put together comprehensive MDG-based strategies.

But it falls short of the Sachs approach, since the prospect of aid equivalent to that called for by a needs-based approach appears highly unlikely.

Such an “intermediate” MTFF scenario would allow for financing and expenditure to be smoothed over a multi-year horizon, and thus be aligned with priorities for addressing (if not actually reaching the MDGs).³ It would help to guide efforts to expand absorptive capacity. Such an MTFF would also recognize the need to ensure adequate consideration of the risks that such an approach entails, and the policies required to minimize them (see section III).

This more ambitious MTFF would thus have country authorities project a medium-term financing scenario that is at the ambitious end of a realistic range of external financing possibilities. It would reflect that although donor financing commitments rarely extend beyond two years, there is this strong G8 commitment for a new pro-aid environment. It would thus explore the implications of a level of external assistance in the out-years—of grants and nonconcessional loans—that is at least at the level budgeted for the current year (line B in Chart 1) and most likely somewhat larger (line C). Chart 1 recognizes that financing could be anywhere between lines A and C and requires a judgment call as to what is likely for a particular country, taking account of its relations with donor countries.

Such a framework would also be based on the presumption that domestic revenue shares *not* diminish. For countries with presently low ratios of tax and nontax revenues, they should rather be targeted to rise (see section III B below).⁴

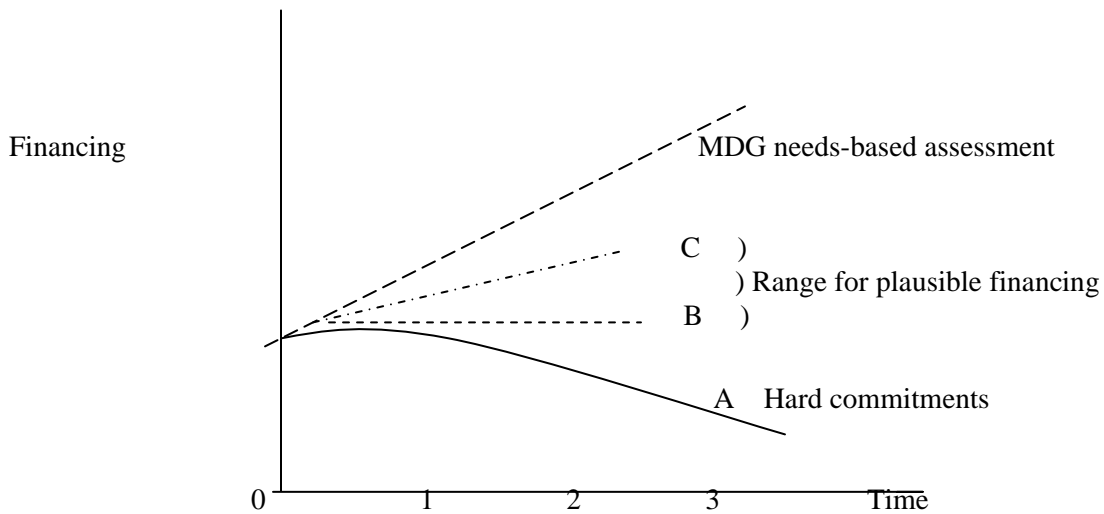
In principle, designing such an alternative MTFF should not be difficult.⁵ Operationally however, a number of challenges would need to be faced in implementation. These include: (i) the decision as to how ambitious the MTFF should be, taking account not only of what grants might be forthcoming but also how much domestic and external nonconcessional borrowing should be assumed; (ii) the need to formulate an expenditure program that is not

³ Such a profile might entail significant upfront investments in infrastructure, say in the context of a well-formulated long-term strategy to realize the MDGs. The key is that governments ensure that the programmed expansion of expenditure takes place according to a prescribed path and is not exposed to a significant risk of abrupt downward adjustment.

⁴ It also assumes that a government will not implement domestic policies—abusive governance actions, large-scale corruption in the use of aid, etc.—that “turn off” the tap of external assistance.

⁵ An alternative approach might be to formulate the budget based on a conservative revenue and external resource projection, while nevertheless also formulating an alternative scenario to guide supplementary budgets and medium-term planning if available resources prove higher than prudently projected. Such a strategy has the advantage that it could reassure donors on the allocation of scaled up budget support and allay concerns that the IFIs are not working with LICs on scaling up scenarios. The downside to this approach is that it does not address how to address the uncertainty as to whether a higher flow of aid will be sustained beyond the next year or two.

CHART 1: Alternative MTFF financing paths



only consistent with a country’s growth and MDG aspirations but also aligned with donor priorities in a scaled-up aid environment; (iii) the need to address the possibility that a scaling up of aid flows may have adverse effects on a country’s competitiveness; (iv) the level of risk to assume from the possibility that donors will prove less generous than assumed or that higher aid may not substantially increase real growth rates;⁶ and (v) the gauging of a government’s capacity to implement a scaled-up spending program. Ultimately, the specifics of a country’s situation will determine where the MTFF should most appropriately be set.

B. Choosing the fiscal anchor

Underlying any operational approach to the management of fiscal policy is the choice of a credible fiscal anchor,⁷ viz., an approach for the setting of fiscal policy targets that ensures a sustainable and solvent fiscal policy, preferably over the longer term. *Inter alia*, a government could target the primary balance or the overall balance, exclusive or inclusive of grants. In practice, a good fiscal anchor is an institutional process that leads policymakers to

⁶ In particular, will a significant scaling up of aid be accompanied by diminishing returns (perhaps reflecting the weaker short- to medium term growth impact of many social sector investments). A cautious approach would suggest that the real growth rate may not be substantially higher over the medium term. This is an issue also germane in any scenario analysis associated with debt sustainability assessments.

⁷ More technically, the fiscal anchor is a mechanism (i.e., a set of constraints or an incentives scheme) to ensure that fiscal policy choices satisfy the intertemporal budget constraint so that there is no expectation of outright default or strategies akin to default—such as forced restructuring, or a prohibitive inflation tax. The term “anchor” echoes the role of a nominal anchor as a precondition for price stability. For example, Bohn (1998) contends that an effective fiscal anchor is a policy that prescribes an increase in the primary fiscal balance in response to an increase in the level of public debt.

implement fiscal adjustments whenever public debt threatens to reach levels that would be difficult to sustain without permanently high primary surpluses.^{8 9}

For most LICs, the choice of a fiscal anchor has traditionally been dictated by the need to cope with high levels of external public debt and shallow domestic capital markets. The latter implies that if the government attempts to borrow too much, it is faced with a sharply higher borrowing rate, increasing the budgetary burden of debt service. This has led fiscal policy makers to set limits on new external borrowing, particularly of nonconcessional debt. In contrast, countries normally have felt free to accept grants to finance expenditure, since this has not raised debt sustainability issues .

One consequence of the recent MDRI has been to substantially relax the perceived financing constraint of LICs. By significantly reducing the ratio of the NPV of debt to GDP, policy makers may now be less inhibited in their spending and borrowing decisions than in the past, thus weakening the importance of debt sustainability as a fiscal anchor.¹⁰ Countries may even believe that an increase in debt levels may trigger higher grant financing or enhanced concessionality in new loans (the so-called “free rider” problem), thus further weakening inhibitions against new borrowing.¹¹ The consequence is that, at least in the short and possibly the medium term, the debt ceiling no longer provides an obvious “anchor” in determining the size of the expenditure envelope.

The issues thus arise as to how large the expenditure envelope should be, whether the expenditure target should be the fiscal anchor, and how much borrowing is acceptable in this new aid environment. A further consideration is whether the traditional acceptance of grant-financed spending is appropriate or whether reliance on grants may pose unanticipated risks. In the previous section, we suggested how to approach the issue of what to assume about how much external assistance—both grants and loans--will be received. We also argued that these external resources should be supplemented by a target for domestic revenue

⁸ In IMF(2003), the concern is expressed that, on average, emerging market countries stop responding to rising debt with higher primary surpluses once the debt exceeds 50 percent of GDP. Beyond that threshold, an average emerging market country is therefore likely to drift on an unsustainable path of debt accumulation.

⁹ In principle, an array of institutional arrangements can provide such an anchor. They range from legally binding fiscal rules to formal commitments supported by strong accountability mechanisms or external incentives—such as those emanating from the conditionality of IMF-supported programs. Of course, the credibility and the effectiveness of these mechanisms ultimately rest on the costs (mainly reputational and political) incurred when they are ignored. In turn, these costs depend on the policymaker’s perception of the budget constraint. Specifically, high debt levels make it difficult—and politically costly—to ignore the merits of adhering to a strict fiscal anchor, whereas low debt levels and large expenditure needs make it easy to downplay the importance of an anchor.

¹⁰ This is in spite of recent IMF reports suggesting that with unchanged borrowing patterns, the improvement in debt indicators is largely temporary, since the benefits from the debt relief fade as the relative importance of accumulated debt from new borrowing grows over time IMF (2006a).

¹¹ They may even anticipate the possibility of a further debt write-off in the future.

mobilization that calls for a gradually increasing domestic revenue ratio, comparable to countries of similar per capita income level. With one further assumption made as to the level of domestic borrowing (or deposit accumulation) that the government should program, one can then obtain an initial estimate for the *outer limit* of the target expenditure envelope, \hat{E}_t , for the MTFE. Specifically, the outer limit of expenditure in period t , \hat{E}_t , can be set at

$$\hat{E}_t = Eo_t + Ei_t = R_t + Gt_t + Be_t + Bd_t \text{ where}$$

Eo_t = primary (noninterest) expenditure, and

Ei_t = interest expenditure.

Gt_t = the target for grants,

Be_t = the target for external borrowing,

Bd_t = the target for domestic borrowing by the government (if negative, this would imply an increase in government deposits), and

R_t = the target for tax and nontax revenue.

In part, the target for a Bd_t should reflect monetary policy considerations in terms of the appropriate target for monetary expansion and the need to ensure adequate room for credit to the private sector (particularly if the growth strategy is heavily private sector focused). It should also take account of the depth and capacity of the domestic capital market to absorb government borrowing without adverse effects on domestic interest rates. With the assumption of increasing aid flows, the medium-term time path of \hat{E}_t would be expected to rise in the context of a government's MTFE, so that $\hat{E}_{t+2} > \hat{E}_{t+1} > \hat{E}_t$.

But it may not be appropriate to set the *actual* target for the time path of expenditures at its outer limit. Several factors should influence the height of the expenditure path that would be appropriate and sustainable to target.

- **Debt-sustainability considerations** may suggest limits on how much spending financed from borrowing can be accommodated (particularly if nonconcessional). In principle, the larger the share of grants that is expected, the less that solvency issues would be seen as a binding constraint. Here the quality of the spending program in terms of its potential growth effects is an important consideration in determining the acceptable level of borrowing. Debt sustainability scenarios should be used to judge how much borrowing is desirable, particularly if a country is below a reasonable debt threshold.
- **Budget sustainability:** there is the risk that in exploring additional sources of fiscal space (particularly grants), expenditure commitments may be assumed that compromise the sustainability of the budget over the medium or even the longer term. The risks include the contingency that spending on grant-financed programs (e.g., for HIV/AIDS treatment or for operations and maintenance (O&M) on infrastructure)

may need to continue even if the grants are not sustained;¹² the normal volatility of aid disbursements; the potential distortions in expenditure patterns arising from donor priorities;¹³ and the potential for grants to weaken the incentive of authorities to expand the domestic revenue base, strengthen tax collection efforts, and address expenditure inefficiencies. The implied dynamics of the scaled-up expenditure program (whether financed from grants or loans) may also suggest limits.¹⁴ Some programs, once initiated, may prove even more costly in the future.¹⁵ Some of these issues can be explored by government in enhanced risk management assessments (see section IIIA). But the assessments may also suggest the need for limits, if not on the level of expenditure, on its composition across spending programs.

- **Growth considerations** may also prove a constraining factor. Beyond a certain level, countries may find that aid-financed spending has diminishing returns.¹⁶ Countries may also worry that a sizeable increase in aid may lead to a significant real appreciation in the exchange rate that could prove damaging to export competitiveness. This is not an implausible scenario if higher aid flows are directed to social sector programs with low import content. This should not be viewed rigidly. If aid is used to enhance productivity in the economy and to remove key supply bottlenecks, such real exchange rate effects may not be encountered or their adverse competitiveness effects may be offset. Moreover, even if a front-loaded investment program gives rise to short-term losses in competitiveness, it may allow for enhanced rates of growth over the longer term, with a strengthening of the human capital base and increased availability of physical infrastructure.

¹² In some African countries, e.g., Rwanda, a very high proportion of grants for HIV/AIDS treatment are channeled to the private sector. Government authorities worry that if such aid flows were to dry up, the government would have to step in and finance the continued provision of treatment.

¹³ Again in the case of Rwanda, the authorities have argued that the flow of aid in the health sector could be used more effectively if it were not earmarked to specific vertical disease programs.

¹⁴ The focus on the MDGs suggests that much of the increased aid may be for programs that will be hard to discontinue, particularly if it leads to an increase in the size of the civil service.

¹⁵ The increasing donor priority to vertical health sector spending programs is a vivid example. Unlike aid for most capital projects, for which the subsequent O&M implications are fairly limited, higher spending, e.g., on AIDS treatment and care (viz., the provision of antiretrovirals and the treatment of opportunistic infections) requires at minimum continuity in future years. Indeed, once started, the cost of such programs for the affected individuals may increase (reflecting that some percentage of individuals may need to have recourse to higher cost 2nd and 3rd-line drugs, offsetting any possible cost reductions associated with mortality in the patient base).

¹⁶ Flexibility may also arise in ways which are not intended by donors. Additional aid eases the budget constraint, allowing governments to engage in politically motivated spending and succumb to pressures for wage increases. Financing targets that emerge from needs-based MDG scenarios need to recognize that such leakages may be inevitable.

But neither can the real exchange rate issue be dismissed as unimportant from the perspective of LIC policymakers (as was substantiated in a recent IMF (2005b) policy paper). If an LIC perceives the potential scaling up of its expenditure program as creating too much pressure on the real exchange rate, this might argue, *ex ante*, for a less rapid growth in the expenditure path. Equally, it might also argue for the accumulation of reserves if there were prospects that future absorption possibilities might improve.

- **The expenditure mix:** the heightened attention to the MDGs, and the increased focus by donors on aid to the social sectors has provoked concern that there may be a bias against infrastructure and economic sectors. Yet the latter might not only have a more immediate growth impact, but also be supportive of an increasing tax base and less susceptible to expenditure rigidities (i.e., more rapidly completed and more easily adjusted downward if there are aid shortfalls).¹⁷ LIC governments could appropriately argue that if they are to expose their budgets to increased risk by applying aid to the social sectors, donors should at least be willing to provide greater assurance as to the sustainability of such funding.
- **The absorptive capacity for expanded spending programs.** *Ex ante*, the composition of the expenditure program either advocated within the PRSP or implicit in the priorities arising from donor assistance may suggest some limits on its size. This is particularly the case if there are bottlenecks in the production process, limits on available manpower, or weaknesses in the capacity to manage government programs or implement investments. Governments may, however, be able to change the composition of expenditures in ways that facilitate higher spending and absorption and limit the consequences of the uncertainties noted above. Ideally, sectoral spending agencies should be motivated to explore alternative options for effective, efficient, and more ambitious spending programs.
- **The size of the public sector:** depending on the development model chosen, governments may be reluctant to allow aid to increase the role of the government in the economy beyond a certain level.

¹⁷ In particular, some argue that if donors cannot make secure long-term commitments, the structure of public expenditure should favor investments that contribute to economic growth in taxable sectors but with relatively low recurrent cost implications. The most obvious areas are infrastructure investment, where there are high returns to both economic growth and poverty reduction, where the recurrent cost implications can be recovered from the user or may be relatively low (e.g, it is cheaper to maintain the road network once it has been rehabilitated to maintainable condition), and where the impact on the taxable economy should be relatively immediate. The neglect of economic growth in the first generation of PRSPs is increasingly recognized in the second, as reflected in the insertion of growth into the title of the PRSP in such countries as Ethiopia, Kenya, Ghana, Rwanda, Tanzania, and Vietnam. The required re-balancing of expenditure can be done either directly with donors, or by adjusting the use of domestic finance to take advantage of fungibility. Such rebalancing is facilitated when there is adequate integration of the development and recurrent budgets.

The key points of the above discussion are: that the medium-term expenditure path (i) can constitute the fiscal anchor for the MTFF because it ensures a sustainable and solvent fiscal policy (as discussed in Section B above)¹⁸; and (ii) may need to fall below the outer limit that would be implied by the more optimistic approach to projecting potential aid inflows. Several important implications derive from the choice of the expenditure path as the anchor.

First, the choice of expenditure path may induce the government to accumulate financial reserves during the fiscal year. This would be the case if it believes that the risks associated with heavy reliance on external financing require some financial cushion to address potential volatilities.

Second, having chosen a given expenditure path as the anchor, *ex post*, this anchor may be consistent with a higher or lower level of domestic borrowing or domestic deposit buildup than had been expected *ex ante*. If there is a shortfall in aid flows, the government would need to draw on its financial reserves. Conversely, a higher level of external assistance may initially increase the reserve buildup beyond the original target. Each year of course, the government would need to revisit the MTFF,¹⁹ particularly if there has been a change in the overall aid environment—either positive or negative—that might influence the degree of optimism or pessimism for sustaining the proposed expenditure path.

Third, the choice of an appropriate fiscal policy cannot be made without consideration of the *composition* of a government's expenditure program. The composition will influence both the aggregate medium-term expenditure targets that would appear desirable as well as the appropriate level of budgetary reserves. Key issues to be considered are the import intensity of new spending programs, the O&M implications, the extent of the shift toward spending programs which are difficult to compress once started, and the costs to growth if the investment program is disrupted. The composition of the expenditure program will also have operational implications with regard to managing the associated risks.²⁰ This is not to argue for or against any particular mix of government expenditures. LIC governments and agencies such as the World Bank are in the best position to judge the appropriate composition for realizing a government's policy objectives. Rather, it argues that fiscal authorities must take account of how the composition of expenditure may affect both monetary and fiscal management in the short term as well as the potential vulnerability and sustainability of the fiscal position over the longer term.

¹⁸ Volatility in spending programs in the past has never been neutral across spending programs and has invariably been damaging to the productivity of projects and programs

¹⁹ Countries with higher international reserves and scope for domestic borrowing will be more able to finance aid shortfalls and set expenditure closer to the outer limit. Conversely, countries lacking these conditions may be very constrained in their ability to finance shortfalls and may thus need to set a more cautious expenditure profile.

²⁰ For example, one might anticipate the need for higher reserves when the expansion in expenditures is for social expenditures with O&M implications, as opposed to where the expansion is with regard to capital expenditures with low O&M effects.

Fourth, recognition that the composition of the budget matters implies that ministries of finance must coordinate closely with decision makers in those sectors expecting a substantial increase in aid. In part, this relates to understanding the potential macroeconomic and fiscal sustainability consequences of the way in which spending in such sectors takes place. It also argues for exploring whether adaptations in the pattern of expenditure can lessen any potential conflicts with macroeconomic policy imperatives. Further, it is important to achieve greater clarity as to the risks involved in a sector's expansion and an understanding of how these risks, e.g., a future shortfall in funding, would be handled. A difficult remaining question is how much of the burden of adjustment of sectoral risks would need to be borne at the sectoral level as opposed to adjustments in other areas of the budget or in the aggregate fiscal stance.

Fifth, the approach suggested above recognizes that *both* macroeconomic stability and expenditure smoothing need to be identified as policy objectives. Due to the precarious nature and weak institutions of many LICs, the maintenance of macroeconomic stability has often taken precedence over expenditure smoothing. However, as many more LICs become "mature stabilizers", as fiscal institutions improve, and the focus on sustained poverty reduction increases, the quality of implementation of expenditure programs over the medium- to long-term becomes critically important. Particularly for social expenditure programs, but also for the recurrent costs of some programs in the economics sphere (agricultural extension, road maintenance, research and development), there are significant costs to volatility in budgets.²¹

Finally, LICs, as far as possible, should base their fiscal programming in the context of IMF-supported programs, on a MTFE (assuming it is realistic). A disconnect between yearly fiscal programs (whether or not they are carried out under IMF-supported programs) and the MTFE should be avoided. Both exercises should be guided by the same recognition of the desirability of a smooth, well-sequenced expenditure path, particularly in the social sectors. As the progress of LICs towards the MDGs continues to be hampered by fragmentation of all sorts—competing medium-term scenarios, parallel budgets, extra budgetary spending, a dichotomy between budget planning and execution, and a lack of alignment between current and investment spending—the focus of fiscal programming and management should be on integration and alignment by the authorities.

C. Fiscal, monetary and exchange rate policy coordination

In many ways, the decision by the government on the size and composition of the MTFE will have important implications, in a broader sense, for the government's macroeconomic policy

²¹ The objective is less smoothness in the aggregate expenditure path and more in the budgets of those expenditure programs for which there may be a high cost to volatility. Thus, if there are expenditure programs (e.g., some, though by no means all capital expenditure projects) for which some delays in implementation can be handled without significant disruption, some variability can be accepted. The problem often arises however that considerations of economic loss are not the principal criteria for how budgetary cutbacks are allocated.

framework. The decision on how much to both absorb and spend of aid will have influence strongly the macroeconomic policy environment, and in particular, the pressures on the nominal exchange rate or the domestic price level. Given the inevitable uncertainties and unanticipated developments that may arise, it is particularly important for the ministry of finance and the central bank to closely coordinate fiscal, monetary, and exchange rate policies, not only in the specification of the underlying macroeconomic policy framework but also in day-to-day policy management.

In a situation where the government budget is heavily dependent on aid flows, the impact of aid on the macroeconomic environment is particularly critical. Aid can only be absorbed by allowing the external non-aid current account deficit to widen, either through direct imports by the government or through conducive exchange rate and monetary policies. Aid inflows can be an important source of liquidity pressure. The amount of such pressure will depend on how the aid is used. When used to finance government imports, it would have little direct impact on liquidity. However, when used for spending on domestic goods and services (e.g., local wages and salaries, perhaps linked to import-related spending), it will add domestic liquidity pressures that can potentially be inflationary.²²

The macroeconomic impact of aid thus depends on the fiscal, monetary and exchange rate policy response (see IMF (2005b)). As noted earlier, for the finance ministry, one key question is how much to spend out of the additional aid. As one of the key actors in determining the overall growth strategy, the finance ministry will also be concerned with the impact of aid on the real exchange rate and on the competitiveness of the economy. For the central bank, the concern is how to manage the liquidity impact of increased aid-induced spending in a way that is consistent with a low inflation environment and sustainable real growth. It must thus worry about whether the use of aid can be absorbed and the nature of the pressures it will engender on the nominal exchange rate and on the level of domestic prices. If the central bank is focused on keeping inflation at bay while still managing the nominal exchange rate, one could observe the central bank seeking to limit the extent of absorption of additional aid that the government may actively be seeking to achieve through higher spending.²³

Thus, pivotal for managing a scaling-up of aid flows is consistent coordination and reconciliation of the objectives of fiscal policy with the exchange rate and monetary policies pursued by the central bank. Several key factors will determine the pressures that fiscal policy may create for monetary policy in managing the absorption of aid inflows:

²² This contrasts with domestic spending financed from tax and other revenue sources, where the liquidity impact of such spending is offset by the contraction in base money arising from private agents drawing down their currency holdings or bank deposits in order to pay taxes.

²³ This is obviously a strategy that cannot work. A central bank has just one instrument and cannot control two variables (inflation and the nominal exchange rate). Trying to both limit inflation and the nominal appreciation of the exchange rate—i.e., trying to target a real variable (typically, the real exchange rate)—can create obvious tensions in macroeconomic policy management.

- the government's decision on how much to spend of the aid inflows and the composition of that spending;
- how much aid is *not* spent but rather used to build up reserves²⁴;
- the government's approach to financing expenditure programs in the event of volatility in aid flows, viz., the extent of reliance on drawing on accumulated deposits at the central bank. This implies that the fiscal deficit inclusive of grants may vary in reaction to volatility in aid flows; and.
- *how* additional aid resources are used.²⁵ In addition to imports, inflationary pressures can be lessened if aid is used to remove bottlenecks to increased productivity, particularly in the nontraded goods sector.

If a central bank is faced with a substantial increase in liquidity pressures arising from the use of aid, there are two basic ways the liquidity impact can be sterilized:

- **It can sell government securities.** Since such a policy is normally achieved by raising interest rates, private sector borrowing and spending is discouraged, with the public sector gaining resources at the private sector's expense. But an increase in the outstanding stock of domestic public debt and potentially higher domestic interest rates may increase the government's debt servicing burden in future years. This is problematic if the additional domestic borrowing is not for productive purposes.
- **It can sell foreign currency in the interbank market,** with the possible consequence of a more appreciated exchange rate. Sales of foreign exchange allow donor inflows to expand national spending, as the increased spending in foreign markets is reflected in a larger external current account deficit (i.e., the counterpart to the real resource transfer from the donor countries).²⁶

The appropriate balance between domestic debt and foreign currency sales will vary with market conditions and needs. In practice, central banks have been reluctant to reduce foreign exchange reserves and/or allow the nominal exchange rate to appreciate, preferring the burden of adjustment to fall on either a reduction in fiscal spending or on the private

²⁴ A decision by government to not spend all of its aid receipts might also be used to pay back some domestic debt, though this would have the consequence of expanding liquidity in the economy.

²⁵ Note the strong impressionistic relationship between the increase in aid and the imports of expensive 4x4 vehicles in many low income countries.

²⁶ The authorities can also resort to "direct instruments" such as increasing reserve requirements or, as a one-off measure, transferring public sector deposits from commercial banks to the central bank but these may be distortionary and cannot be used on a continuous basis.

sector through higher interest rates (i.e., limiting the effective absorption of aid flows).²⁷

Short of approaches to increase aid-financed imports or enhance productivity, LICs must accept that absorption of significant scaled-up aid is likely to require an appreciation of the nominal exchange rate. The alternative is to engender inflationary pressures which would essentially effect a real appreciation in any case.

The challenge of monetary and fiscal policy coordination in the context of scaled-up aid is particularly difficult when LICs are in a regional currency union (e.g., as in West Africa). Here individual member countries cannot pursue an independent monetary policy. The regional central bank is charged with the responsibility for sterilizing or dampening the inflationary pressures that may arise in the union, particularly when there is a nominal exchange rate peg. Countries in such cases face the following dilemma (as illustrated for the case of the West African Economic and Monetary Union (WAEMU)). Fiscal rules are used to limit the extent to which governments can, through fiscal policy, create monetary pressures by running deficits. Effectively, these rules restrict the ability of a government to spend additional aid flows. Yet the promise of additional aid would create considerable pressure for an individual country to ignore these rules, allowing the aid-financed spending to take place. But such spending, particularly if focused on nontradeables, may create inflationary pressures that would be hard to square with the maintenance of a nominal exchange rate peg.

The issue is further complicated by the fact that member countries may differ in their ability to obtain donor assistance. Efforts by the regional central bank to sterilize additional liquidity emanating from one country will impose sterilization costs that impose negative externalities on nonrecipient countries. Thus, as with any other country dedicated to maintain a hard exchange rate peg, the approach advocated above in terms of receptiveness to the use of aid resources may conflict with the objectives of price stability. The problem in the regional currency union case is that the individual country does not have the option to change the peg and allow a nominal appreciation in the event that aid flows are substantial.

Two alternative approaches may be considered. One is for the regional central bank to allow the price of nontraded goods (notably wages) to rise if different countries get greatly differing amounts of aid. The implied real appreciation of the exchange rate in the high aid-receiving countries would facilitate a higher current account deficit in these countries, which could be financed from the higher reserves derived from aid. Alternatively, the aid-receiving countries could seek to influence the composition of spending, both as between tradables and nontradeables and in terms of investments that can be shown to substantially increase productivity and remove bottlenecks in the economy.

²⁷ Given the volatility and unpredictable nature of aid, a central bank's natural conservatism is understandable. Celasun and Walliser (2005) cite a number of countries in which 80-90 percent of annual budget support was disbursed in the last quarter of the year, which means that either domestic financing temporarily fills the gap (and is accommodated by the central bank) or expenditures must adjust. In such cases the central bank may need reassurances that the financing will be forthcoming before endorsing the expenditure that may lead to a 'temporary' drawdown of foreign reserves.

III. Enhancing the Management of Fiscal Risk

Aid volatility and the lack of short and long-term predictability in aid commitments add to the inherent uncertainties facing developing countries.²⁸ **Volatility** leads to instability, uncertainty, and risk. At the macroeconomic level, it has a direct negative impact on long-term growth (Fatas and Mihov, 2003, Celasun and Walliser, 2005). With a scaling up of aid, the absolute magnitude of the volatile element of aid flows may also be larger. For example, if in the past, the standard deviation of aid flows was, hypothetically, 15 percent, an increase in the share of aid flows from 10 percent of GDP to 20 percent, would imply that the potential standard deviation could rise to 3 percent of GDP.

Short-term unpredictability--in terms of the magnitude or timing of aid disbursements within the budget year--can complicate macroeconomic management through a variety of channels. Large injections of liquidity into a thinly monetized economy may make systemic liquidity management more difficult and/or negatively impact the terms of trade. At a more microeconomic level, the need to impose ad hoc limitations on expenditure can be extremely disruptive, tending to favor noncompressible current expenditures (usually the wage bill), the donor-financed capital budget, and politically powerful ministries. Moreover, with domestic sterilization of the government's exposure to volatility often shifted to the private sector, there can be adverse effects on investment.

Long-term unpredictability creates a different kind of risk. Expanding recurrent spending programs creates expectations as well as contractual and moral commitments. If the amount of additional aid to finance social expenditure programs is expected to be substantial, governments will need to design an appropriate strategy for scaling up, including the appropriate sequencing of training and hiring. If there is uncertainty as to whether the higher aid flows will eventuate or be durable, ministries of finance may rightfully be cautious as to how much to invest in training programs or how many to hire on a permanent basis. In the narrow case of expanding HIV/AIDS treatment programs, the risk of having to discontinue treatment not only would have adverse effects for the population concerned, but would also pose larger risks (in terms of the likelihood of the spread of resistant strains of the virus).

Fiscal risks can be managed through a combination of enhanced risk assessment, self-protection, self-insurance, and risk pooling. Enhanced **risk assessment** relates to the way fiscal risks are considered, managed, and acted upon in the implementation of both aggregate fiscal policy and sectoral program design. **Self-protection mechanisms** seek to either prevent the volatility from occurring or limit the extent of exposure to significant volatility or unpredictability. In a longer term context, increasing the share in GDP of government revenues is also an approach to self-protection. **Self-insurance and risk pooling** seek to transfer income built up during good times to deal with the potential for negative shocks in the future, while recognizing that permanent changes in income or aid flows would

²⁸ See Bulir and Hamann (2006)

eventually need to be reflected in an adjustment of expenditure. The technical and political challenge is to distinguish between such shocks.

A. Assessing short-term financing risks

Debt sustainability assessments are seen by the World Bank and IMF as an important vehicle for judging potential solvency risks associated with external borrowing, both by emerging market countries and by LICs. Particularly for countries with a history of particularly volatile aid flows or recurrent liquidity problems, the IMF-World Bank Debt Sustainability Framework (DSF) template can clarify some of the key fiscal policy options and risks and refine the choice of an appropriate anchor for fiscal policy (particularly in the post-MDRI environment where debt ratios for many countries have been significantly reduced).

One option offered by the template is to simulate the operation of alternative fiscal rules. This exercise could include the use of:

- **scenario analyses** to assess the risk of debt distress associated with alternative assumptions (ambitious, realistic, and pessimistic) over the typical time frame of 20 years. Scenarios would need to be plausibly related to alternative borrowing plans, interest rate levels (embodying concessionality), and potential growth paths. The latter would be related to the broad composition of expenditure (as between infrastructure investments and current expenditure) and the level of private investment. Scenarios could also assess the potential consequences of a significant increase in *grant*-financed expenditure programs, taking account of their recurrent expenditure implications or of the scaling up of sectoral programs that are hard to reverse;
- **stress-tests** to explore country-specific sources of uncertainty. By attaching some judgmental probability estimates on the likelihood of different assumptions (e.g., shocks on aid flows), a perspective is possible on the risks associated with alternative borrowing strategies. The gains from smoothing strategies built into the fiscal targets, including the build-up of assets during positive shocks, could easily be assessed by comparing outcomes under alternative fiscal rules; and.
- **assessments that focus on the more immediate *medium-term time frame*—say, 5 years**—to explore the prospects for maintaining a targeted expenditure profile, taking account of potential shocks to the fiscal accounts and liquidity constraints. Such assessments would provide a useful complement to the DSF's focus on long-term solvency, particularly in cases where debt relief has been significant and/or considerable grant assistance is being provided. In such cases, government may face a challenge in managing cash flows to ensure that expenditure plans are implemented smoothly (i.e., facing a liquidity constraint) and alleviating absorptive constraints. Where access to financial markets (international and domestic) is typically limited, even a temporary shortfall in aid is likely to disrupt budget execution, particularly for

investment spending where cuts may be permanently lost.²⁹ Annex I illustrates the possibilities afforded by such an exercise for the case of Ethiopia. The stress tests show that the consequence of volatility in the growth of grants can be different as between the vulnerability to solvency (in a post-MDRI context) and the vulnerability to liquidity risk. An extreme aid shock would be difficult for authorities to offset through domestic financing.

B. Self-protection and fiscal credibility

Policies of self-protection seek to reduce the volatility and unpredictability of aid flows. One obvious approach is for a country to be conservative concerning how much additional aid to accept, reflecting that volatility may arise from factors exogenous to a recipient country's own behavior (e.g., other fiscal or balance of payments pressures on donors; other demands for aid that are seen as politically more acute, etc).³⁰

A track record of transparent and prudent fiscal policies may be the best form of self-protection. In response to periods of severe disequilibria, many LICs have resorted to institutional mechanisms such as rule-based cash budgets which have proven successful in reducing inflation and achieving a track record of fiscal discipline. However, these mechanisms have a cost. Strict adherence to cash-budgeting places the burden of adjustment for revenue shortfalls, including aid, on expenditure programs. Where money-demand is growing strongly, it can also be unnecessarily deflationary.³¹ The difficult choice for many LICs and donors is how to manage the transition to more flexible fiscal management while still retaining the benefits of enhanced fiscal discipline.

The value of fostering a shared strategy with donors. A well-articulated MTFE for which there is a strong political and policy commitment by the government can improve the link between the '*need for*' and the '*availability of*' resources. This framework should be used to set out common objectives which can be agreed with donors, identify the main fiscal risks, develop possible mitigating strategies, and allow targeting of external assistance to areas where implementation capacity is sufficient to absorb more aid productively.

Greater flexibility can also be sought in the design and implementation of aid-financed expenditure initiatives. The scope for flexibility has been weakened as donors have moved from investment projects (which can be delayed or downsized) towards less compressible entitlement and recurrent cost-intensive spending programs. One obvious approach is to rely more on the use of contractual staff in expanding the social sector. Contracts of medium-term duration (3-5 years) give flexibility in the event of aid discontinuity. Such contracts can be

²⁹ See Celasun and Walliser, 2005. They note that even when aid arrives it is often lumpy, with Burkina Faso receiving 80-90 percent of its annual budget aid during the last quarter of the year, and that temporary shortfalls tend to fall on investments, which are not subsequently recovered.

³⁰ A country may also recognize that its own actions, though appropriate in terms of its own political or economic considerations, may give rise to adverse donor reactions.

³¹ Adam and Bevan, 2000; and IMF (2005b)

specified to include most of the benefits normally associated with civil service employment. Such an approach effectively adopts the type of contractual arrangement already common for some capital expenditures.³²

How aid is used can also be a form of self-protection. Easing supply bottlenecks can mitigate the adverse effects of aid volatility while improving domestic absorptive capacity. A substantial boost to aid-financed investment in infrastructure can contribute to increased sustainability of long-term development efforts. Careful investments to bring down production costs and improve productivity may offset the impact of a nominal exchange rate appreciation on competitiveness. As noted, increasing the noncompetitive import content of aid can further reduce pressures for a real exchange rate appreciation.³³ To incorporate such considerations in the formulation of fiscal policies, macroeconomists need to be informed on sectoral investment priorities (water, electricity, telecommunications and transportation infrastructure as well as human capital) and on the role that different current outlays can play in removing key supply bottlenecks.

The development of a more liquid financial market can enable less destabilizing access to domestic financing. Government cash flows generally have a significant impact on the liquidity of the banking sector. If fiscal management is stable and credible, it can catalyze the development of deep and liquid money and bond markets. This can not only bring down the cost of funds to all borrowers, but also help to buffer the effects of domestic and international shocks to an economy by providing borrowers with readily accessible domestic financing. This can reduce a government's exposure to interest rate, currency, and other financial risks.

Finally, a more durable form of self-protection can be achieved by enhancing the mobilization of tax and nontax revenues. The availability—if not the mere prospect—of increased aid may weaken a government's incentive to mobilize tax and other revenue (e.g., see Gupta et al, 2003). Politicians may be unwilling to enforce tax compliance when “free” funds are available. **Particularly for LICs with a revenue share significantly below the average for peer countries, the fiscal policy response to a scaling up of aid should include a targeting of domestic revenue mobilization effort** to raise the revenue ratios to the 15-20 percent of GDP range.

C. Self-insurance

By building fiscal reserves, governments can cushion ongoing expenditure programs, at least over the short-to-medium term, against the volatility of aid flows.³⁴ In the same way

³² The political feasibility of such an approach may prove difficult if it were necessary to release teachers or health workers.

³³ However, if the increase in imports simply substitutes for goods that are otherwise produced locally, it would still cause a rise in the relative price of nontradables, and thus put pressure on the real exchange rate.

³⁴ Over the longer term, and given the large opportunity cost of reserve accumulation, such a policy cannot guarantee the sustainability of an expanded spending program if, in the worst-case scenario there was to be a sharp drop in aid flows.

that central banks hold foreign exchange reserves to manage volatility in the balance of payments, the fiscal agent can accumulate deposits to help smooth expenditures and offset aid shortfalls. These higher fiscal deposits would be matched by higher foreign exchange reserves held by the central bank, since large movements in domestic financing could be destabilizing for LICs lacking deep financial markets. In the event of a temporary shortfall in foreign aid or another shock, as the government draws down its deposits, some of the accumulated foreign exchange deposits can be sold in the domestic market in order to smooth expenditure.

Some LICs have pursued such a policy on a *de facto* basis by saving incremental aid (although this could also be more a consequence of additional aid confronting absorptive capacity constraints rather than as a policy choice).³⁵ However, just as many oil producers have argued that it is difficult to save oil windfalls in the face of pressing social and infrastructure needs, many LICs may find it difficult to abstain from an expansion in expenditure programs³⁶ Donor buy-in to an increase in reserves would also be important, since this would effectively mean the saving of some portion of donor assistance as a cushion against volatility.

How large should reserves be? Studies suggest that the volatility of aid can be very large, exceeding that of fiscal revenue, with coefficients of variation usually in the range of 40-60 percent of the mean aid flow (Bulir and Hamann, 2003 and 2005). This can impose high costs on vulnerable, aid-dependent economies. It can also increase the danger of slipping into a low-level equilibrium trap whereby countries, budgeting prudently within a sound MTF, may logically discount pledges of assistance, while donors, seeing lower funding gaps, reduce their aid pledges and commitments.

The target level for such reserves and the specification of the conditions under which they may be accessed must inevitably be country specific. Calibration may initially be based on the historic level of volatility of aid and other shocks. But if there is a prospect of greater aid, the reserve target would need to also consider the potential risks from a disruption to the financing of government programs at a scaled up level. Recognizing that the traditional measure of months of imports may not be satisfactory in the context of an aid-dependent economy, Eifert and Gelb (2005) have proposed that an equilibrium buffer stock should include a reserve tranche of 50-100 percent of annual aid-financed spending (equivalent to 2-4 months of import cover in a typical aid-dependent LIC with an annual import-to-GDP ratio of 40 percent). They contend that this would be effective in smoothing expenditure in most periods within the range of historic levels of aid instability (based on Bulir and Hamann,

³⁵ Ghana and Ethiopia were cited as witnessing periods where incremental aid was saved, although some of this may have had to do with weaknesses in the budgetary process (see IMF (2005b). In the case of Ethiopia, it reflected that its international reserves had been significantly run down following the conflict with Eritrea. Moreover, it was rapidly reducing its high defense outlays and unsustainable domestic budget financing, while raising pro-poor spending.

³⁶ For a discussion of oil producers see, Katz, Bartsch, Malothra and Cuc, 2004

2003). They also note that most LICs have foreign exchange reserves equivalent to about 5 months of imports, which they deem adequate for the observed aid flows and volatility.

Eifert and Gelb recognize that their proposed mechanism would work best when fluctuations are serially independent or tend to offset each other in subsequent years. The buffer stock would be most vulnerable when disbursement shocks are autocorrelated, since countries would experience a series of negative shocks. In the case of large negative shocks to aid flows, such a reserve buffer would be depleted in several years, during which time countries and donors would have to organize an emergency response.

The question that arises is whether their proposal should be modified if aid is substantially scaled up—say, doubled from 10 percent of GDP to 20 percent or even greater? If the above relationships hold and the degree of volatility remains unchanged, the reserve buffer would have to increase to at least 6 months of import cover. Clearly, if the degree of aid volatility *also* rises with a scaling up of aid, a larger reserve buffer would be needed.³⁷ *A fortiori*, with a change in the composition of aid towards programs which are less easily adjusted, an even higher level of reserves might be advisable. In moving forward, it might also be worth assessing the level of net international reserves against a broader measure of need that reflects the use of reserves to smooth externally-financed expenditures.

D. Risk pooling

Donors could also devise more flexible compensatory financing mechanisms to limit the impact of aid shortfalls. Several new initiatives along these lines have been developed, including formalized partnership agreements, the Paris Declaration on Aid Effectiveness and the IMF's Exogenous Shocks Facility. However these mechanisms remain administratively cumbersome (given long data lags in LICs) or ad hoc in character. Consequently, they fail to provide the required support on a timely or consistent enough basis for countries with thin financial markets to avoid the costs of fiscal adjustment.

An alternative approach to cushion volatility would be to link debt repayments or aid disbursements to key macroeconomic variables. There is a growing academic literature on the benefits of tying debt instruments to particular macroeconomic events, such as the level of GDP or a shock to a key cash crop.³⁸ Such a link can provide a measure of 'automatic

³⁷ One must also recognize that political economy incentives may lead a country—perhaps even rationally—against pursuing this type of approach of a smooth expenditure stream, buttressed by a reserve management policy. In a context where 'absorb and spend' is the leitmotiv, and where information on true absorptive capacities and policy preferences is asymmetric, countries may be tempted to *signal* to donors their ability to absorb additional aid by spending windfalls, while covering shortfalls with domestic borrowing. Domestic debt would then ratchet up as aid fluctuates, ultimately threatening the credibility of the fiscal anchor. The likelihood of such strategies being used for signaling purposes—and the corresponding need for well-designed fiscal targets—increases with the perceived risk that donors may reduce aid if it is not spent, and that grants would automatically increase if debt grows out of control. It also decreases with the country's true absorptive capacity. Some indeed have argued that such an approach would be rational with respect to accumulating additional debt. Past experience suggests the possibility of debt forgiveness again being provided.

³⁸ For a review of state contingent debt instruments see, IMF (2003).

stabilization' against shocks, both by reducing debt payments and bolstering credibility by reducing the swing in debt-to-GDP ratios. While a paucity of reliable information has inhibited the development of state-contingent debt instruments, there are fewer barriers to donors providing some explicit state-contingent financing in the context of formalized partnership agreements or pooled financing arrangements and MTFs (in effect, formalizing the already established practice whereby donors compensate LICs in the face of natural disasters, droughts etc).

IV. Institutional approaches to facilitate fiscal management with scaled-up aid flows

The previous sections have highlighted alternative approaches to strengthen fiscal policy management in the context of a scaling up of aid. **But the adoption of strengthened policies is not independent of a country's capacity for implementation.** The latter will shape whether donor policies facilitate or hamper a country's efforts to absorb additional aid effectively. Strengthened public financial management (PFM) is well-recognized as fundamental. But four other areas require attention: (i) action by donors to make their aid policies more effective; (ii) efforts by aid recipients to facilitate donor coordination and strengthen aid management; (iii) the embedding of a medium-term perspective into fiscal policy; and (iv) the strengthening of institutions and the processes for the coordination of fiscal and monetary policy.

A. Strengthening donor efforts

We have underscored the difficulties posed for LIC fiscal policy managers when there are uncertainties as to the timing, duration, magnitude, content, and conditionality of aid. For some countries, this is exacerbated by the large number of donors, each with their own procedures and reporting requirements, and by the multiple sector managers with whom they interact (often independent of the fiscal managers in the ministry of finance). The greater the certainty, the easier the task of a government in formulating and managing its budget and fiscal policy framework. And the more effective donor coordination, the higher the likely overall productivity of the aid and the less taxing it will be on the limited capacity of an LIC for aid and budgetary management. Aid flows can never be the equivalent of domestically mobilized resources in terms of their fungibility or degree of certainty. But there is significant scope for both donors and recipients to facilitate greater certainty and efficiency in the delivery of aid.

The international donor community has recognized that external assistance has contributed to the fragmentation of LIC budgets and the volatility of revenues.³⁹ The Paris Declaration on Aid Effectiveness articulated five key partnership commitments, with a principal focus on recipient country ownership, alignment with recipient country priorities, harmonization of donor efforts, management for results, and mutual accountability. **Yet this initiative**, even if speedily implemented and broadened to include the multiple other providers of external

³⁹ See Bulir and Hamann (2006)

resources, **does not address the lack of certainty as to the *duration* of external assistance.** Several further steps are required:

- **Longer donor commitments:** Some donors are moving in this direction (witness DFID's recent efforts in Ethiopia, Malawi, and Rwanda. The EU has moved to delineate a portion of aid commitments--the fixed tranche disbursement—that would only be based on a basic framework of cooperation and satisfactory macroeconomic performance (and not be subject to sharp reversals in the event of poor performance). Only disbursement of the variable tranche would depend upon performance in terms of agreed results-based outcomes. Even with political concerns, there is an expectation of some dialogue and engagement before any suspension of aid.
- **Greater efforts by donors to understand better how to translate the provision of aid into development outcomes.** Grants should be less tied to specific projects, channeled through the budget, and coordinated better with recipient country development frameworks and the aid of other donor countries. Donors could seek to disburse aid in a countercyclical manner and find ways to respond more quickly and more efficiently in the event of large adverse shocks. Donors should expeditiously provide reliable and complete information on flows of development assistance in order to facilitate their incorporation into budgets and medium-term fiscal plans. This also entails presenting the data in a format compatible with internal government systems.
- **Increased provision of technical assistance to strengthen PFM is critical** if higher aid flows are to be managed and absorbed effectively. Donors have stepped up efforts to improve the general diagnosis of PFM weaknesses in LICs, developing tools such as the Public Expenditure and Financial Accountability (PEFA) framework in order to provide a basis for in-depth diagnostics, focused recommendations, and coordinated assistance to tackle key deficiencies.⁴⁰ PFM reforms are focusing on improving budget preparation, presentation, execution, control, and reporting. Enhancement of treasury operations and accounting procedures also rank high on the PFM agenda. Most approaches emphasize that PFM reform should be country-led and require donor harmonization and alignment around the country strategy with a focus on monitoring and results, often through IMF conditionality. However, institution-building is a medium- to long-term endeavor. It can be costly.⁴¹ Its durability is often contingent on the presence or absence of a reform-minded permanent secretary or budget director in the ministry of finance. Sustained country and donor commitment,

⁴⁰ This approach has recently been elaborated by the PEFA group, in consultation with the OECD-DAC Joint Venture on Public Financial Management. PEFA is a partnership program between the IFIs and a number of donors. See: <http://www.pefa.org>.

⁴¹ It should also be recognized that some PFM reforms can be expensive, with such reforms themselves absorbing significant external aid resources. Cases in point are Tanzania, where approximately \$85 million was spent over 5 years on PFM reforms, Kenya, which has proposed a \$119 million reform plan, and Uganda, which has proposed a \$56 million plan.

combined with focused reform implementation, appropriate sequencing and realistic expectations on the rate of improvement, are essential to overcome capacity limitations.

- **Simple, formalized partnership agreements:** These can help to harmonize and streamline aid delivery. Where the relationship between donors and the recipient is advanced, a ‘joint partnership framework’ can outline the basic principles of donor collaboration, using a common ‘performance assessment framework’ (PAF) for reviews and disbursements (e.g. recent examples exist in Mozambique, Tanzania, Ghana, and Burkina Faso).⁴² Such agreements can facilitate joint monitoring of program support by donors and recipients, managed according to a set of predefined common principles, even when disbursement decisions remain subject to individual donor decisions. The IMF’s participation as an observer to these arrangements has helped provide a link to the macroeconomic framework.^{43 44}

But joint partnership frameworks can take time before they demonstrate their success in improving the predictability and effectiveness of aid.⁴⁵ For example, in the first two years of operation of the Poverty Reduction Budget Support arrangement in Tanzania, budget support was still the most unpredictable of all government revenue sources, being 22 percent and 32 percent below budgeted levels. In the Tanzania case, budget support only became more certain in the third year, falling only 2 percent below budgeted levels (FY2003). Incorporating explicit targets for predictability in the PAFs might also accelerate this process.

B. Recipient country actions

Recipient nations can enhance their capacity for managing fiscal policy in the context of scaled up aid flows. This is particularly relevant if there is an increased share of program assistance and sectoral support relative to projects. A number of approaches are possible:

- **Strengthening the capacity to monitor and manage development funds:** Many countries have created dedicated functional units within the ministry of finance to record and monitor the performance of external grants and debt, e.g. Ghana’s Aid and Debt Management Unit or Tanzania’s External Finance Department. While creating

⁴² For an evaluation of PAFs in these countries, see Lawson, Gerster, and Hoole (2005)

⁴³ Many of the most advanced arrangements are still being refined, mainly by reducing the number of indicators or PAF conditions, to ease implementation—for example in Ghana the PAF comprised 29 indicators in 2006, down from 39 in 2005, while the performance tranche disbursements are linked to a sub-set of only 10 indicators.

⁴⁴ Op. cit. The need to simplify donor policies and to encourage collaborative behavior was one of the commitments made by donors at the Rome conference.

⁴⁵ Bulir and Hamann (2006)

such units may be helpful, e.g., for including commitment information in projections (see below), the move towards budget support also requires coordination *throughout* the budget process, including with the line ministries responsible for delivering the services on which performance conditionality is commonly based. Specific financial regulations and procedures are often needed to support such coordination.⁴⁶

- **Integrating donor information in fiscal data:** In order to assess overall resource availability and allocate resources in line with policy priorities, governments should integrate aid flows, on both an *ex ante* and *ex post* basis, within the budget so that they can be programmed alongside domestic resources. While program support, loans, and debt relief are channeled through the budget, considerable aid is still delivered as discrete projects, with funds disbursed through separate arrangements. This occurs even when the ‘agency’ is part of government. Many countries have established dedicated aid management information systems to supplement their accounting systems, with information reported by donors and/or line agencies. However, even where standard reporting formats have been agreed (e.g., Ghana, Uganda, and Tanzania), this problem of separate data reporting persists.
- **Improving the realism of the budget:** To be a credible policy tool, the annual budget needs to be based on realistic projections of available resources and expenditures. Governments usually need to adjust donor commitments to provide a better indication of likely disbursements. As an interim measure, countries with a track record of donor assistance can scale donor pledges with ‘discount’ factors. For example, Uganda applies a discount factor on donor budget support set at the average level by which disbursements have fallen short of commitments over the last five years (currently around 35 percent). This could also be refined for differences across donors, but should be seen as a second-best solution to improving the reliability of donor commitments.
- **Strengthened fiscal reporting.** Appropriate budgetary classification systems need to be in place, computerization encouraged, and efforts made to incorporate sub-federal levels of government in the fiscal reporting framework.
- **Clear leadership:** Regular in-country meetings with donors under government leadership, dissemination of information on reforms and progress, and clarification of domestic needs at both national and sector level, can greatly improve information flows and enable donors to better adapt their future programs to their comparative advantage.

⁴⁶ A major challenge is the highly fragmented nature with which aid flows are sourced and managed within line ministries. Line ministries themselves may have difficulty limiting the pressures for absorbing aid for specific projects, and the possibility of organizing a coherent and integrated sectoral strategy is made more difficult by the effective earmarking of a substantial share of a ministry’s budget. This makes a rational allocation of budgetary resources by the central budgeting agency even more complex.

C. Strengthening the medium-term fiscal orientation

Section II highlighted the analytical importance, for policy and budget formulation, of having a medium to long-term perspective on the fiscal framework. Section III emphasized the importance of such a framework for developing a shared strategy with donors and identifying the main fiscal risks and mitigating strategies.

Three basic stages of institutional development have been identified for multi-year budgeting:⁴⁷ (i) a medium-term **fiscal** framework (MTFF) provides a statement of fiscal policy objectives and sector strategies and a set of integrated medium-term macroeconomic and fiscal targets and projections; (ii) a medium-term **budget** framework (MTBF) incorporates projections of revenues and of spending by individual agencies that allocate resources in line with strategic priorities, consistent with the overall fiscal objectives of the MTFF; and (iii) a medium-term **expenditure** framework (MTEF), which extends the analysis of expenditure further, with more detailed sectoral costing and performance measures (possibly including activity and output-based budgeting) (Lawson and Jones, 2000).⁴⁸ MTEFs typically lack revenue projections.

In countries that have the capacity, the expenditure path identified in the MTFF should be the basis for a 3-4 year-horizon rolling MTEF. Ideally, both the MTFF and the MTEF would then be aligned with the yearly budget exercise, and ultimately, budget execution. While for many LICs this approach might still prove very ambitious, such alignment would be facilitate the channeling of scaled-up aid and debt relief toward spending programs geared to reaching the MDGs. While the yearly budget exercise is by definition subject to tighter constraints, it should strive to converge with the fiscal path identified in the MTFF and resulting MTEF. Equally important, to ensure that the alignment of budget planning with budget execution allows for robust cash-flow planning, countries should be encouraged to move from cash rationing to cash management.

However, in countries where key aspects of budget management remain weak, a multi-year framework alone will not be able to deliver improvements in donor coordination or PFM. **Indeed, if annual budgets lack realism or where PFM systems are deficient, a complex MTEF may be counterproductive and divert attention and limited administrative capacity away from more basic PFM reforms.**^{49 50} An intermediate option is to move to a

⁴⁷ See Lawson (2000 or 2004?)

⁴⁸ Indeed, in some countries (notably Ghana and Tanzania), the MTEF has gone beyond the provision of a medium-term projection framework and become almost the budget itself.

⁴⁹ Op cit and see also World Bank 2005.

⁵⁰ Bevan (2006) notes the difficulties that arise in introducing an extended version of the MTEF, including the sheer scale and complexity of what is involved, such as radical changes to the budget classification system and the introduction of new modalities e.g. IFMIS. He emphasizes that even partial success in introducing an MTEF requires a “careful matching of demands to capacity and to the rate at which capacity can be built” and “palpable incentives to induce line ministries to cooperate.”

MTBF. Bevan (2006) has noted that such a move means adding a mechanism for allocating discretionary resources between competing spending agencies, again over a multi-year horizon. While an informed judgment on allocations for the out-years can be a demanding task, he notes that a mechanistic start is possible, with some sectors strategically (and arbitrarily) targeted to grow at a higher rate than the average, with others maintaining their share and others declining. Over time, as the MTBF process is updated in a rolling framework, the system can evolve away from this mechanical start.

In the event that even a MTBF would also strain a government's PFM capacity, donors should assist governments in developing the capacity to build up appropriate MTFs. Particular attention should be given to avoiding a dichotomy of current expenditure versus capital expenditure. In countries with limited administrative capacity, an alternative to a fully-fledged MTF could be a limited set of sectoral scaling-up scenarios, guided by the principles outlined above. The focus would be on those individual sectors (e.g., the social sectors) likely to be recipients of significant aid flows. In such countries, heavy focus should be placed on addressing weaknesses in the key components of a PFM system, viz., a reliable and timely PFM data base, a good budget classification systems, basic accounting procedures, a sound reporting system, a unified budget, and a Treasury Single Account.

D. Strengthening institutions for monetary and fiscal policy coordination

Section II emphasized the importance of close coordination of monetary and fiscal policy in the context of scaled-up aid. Coordination should be a continuous process. It is needed in designing a medium-term financial programming framework, in annual budget preparation, and day-to-day operations. Achieving such coordination does not imply that the central bank would lose its independence. Rather, it argues for much greater interaction between the central bank and the fiscal authorities in terms of sharing information on budgetary plans and on the timing of expected receipts of aid disbursements and spending. The objective is to ensure that the central bank, in its management of monetary policy, can take account of the impact of fiscal operations, particularly in situations where the magnitude of aid flows and their liquidity effects may be large. This enhanced coordination would be relevant independent of whether the central bank is running a flexible or fixed exchange rate policy (and in the latter case, whether or not part of a currency union).

Institutional measures to facilitate improved fiscal-monetary coordination include better cash forecasting and management, often preceded by the consolidation of government bank accounts into a Treasury Single Account structure; enhanced monitoring and forecasting of the cash flows of large and often lumpy and donor financed projects; initiatives to smooth intra-year revenue and spending profiles; and the development of formal operational agreements and communication arrangements between the central bank and ministry of finance, particularly with regard to the foreign exchange strategy. In addition, better coordination with donors might prevent the concentration of disbursements in the last quarter of the year.

V. Conclusions

Recent initiatives to relieve many LIC governments of their debt obligations and to scale up aid should allow for an expansion of fiscal space for programs to spur long-term growth and reduce poverty. But they also pose challenges for the design of a fiscal framework that fosters a sustainable delivery of enhanced public services and strengthened infrastructure while still ensuring a credible commitment to fiscal prudence. The challenges arise for many reasons. First, governments face uncertainties about the aid itself. How much additional aid will be forthcoming? How will it be structured in terms of its composition? How conditional will it be? What will be its phasing? And for how long are donors willing to make commitments of enhanced aid? A second set relates to the complexities of development itself—the challenges of using aid in ways that remove key bottlenecks to growth, foster high productivity, and achieve the MDGs. Third, with the additional fiscal space afforded by debt relief, governments will have to think carefully about how much and how fast new debt can be accumulated in support of growth initiatives, even if much of the debt is on concessional terms. And finally, there is the issue of whether absorption of scaled-up aid will lead to a real appreciation of the exchange rate, and with what effect? Countries will have to be satisfied that aid can foster higher productivity and sustained competitiveness.

This paper has sought to examine how governments can formulate a fiscal framework that is ambitious in its goals for absorbing additional aid, prudent in terms of the sustainability of programs and government finances, and supportive of macro stability. There are six principal points to emphasize.

First, fiscal policy should be formulated in the context of an ambitious MTFE that is based on an aid scenario that is both ambitious yet realistic. Such a policy framework should embody higher domestic revenue mobilization in order to facilitate an eventual graduation from aid dependency. At a minimum, scenarios should be prepared for those sectors likely to receive significant additional aid. Such an MTFE should be linked to the annual budget and, if a country has the institutional capacity, to an MTEF.

Second, an important fiscal policy objective should be the assurance of a stable expenditure path, which would become the principal fiscal anchor. Volatility in spending programs in the past, whether related to volatility in aid flows or exogenous shocks, has never been neutral across spending programs and input categories and has invariably been damaging to the productivity of projects and programs. The fiscal policy framework should avoid disruptive cutbacks in nonwage spending in sectors and in necessary O&M, as well as the stalling of projects (recognizing that a permanent shock will probably require a downward adjustment in spending). A important corollary of this approach is that one might then need to accept some variability in the domestic financing requirements of the government—principally financed by a buildup and drawdown of government reserves—reflecting volatility in aid flows and the effort to smooth expenditures.

Third, the composition of expenditure matters in terms of the pursuit of a sound fiscal policy framework. This is particularly the case if much of the increase in aid is intended for the expansion of a few key sectors. Expanding the share of government spending dedicated

to programs that are of a recurrent nature, which are difficult to cut back, or which are subject to clear absorptive capacity limits, requires a more prudent posture in terms of facilitating a smooth expenditure path than a spending program that is enhanced through discrete capital projects. Equally, the macroeconomic issues in absorbing aid are very much determined by whether the expansion in aid is used for the purchase of nontradeables or tradables and the extent to which the aid can enhance productivity and remove supply bottlenecks. The aggregate expenditure target consistent with financing that is available may thus need to be modified—indeed possibly reduced—to take account of the composition of expenditure (and also possibly the sources of financing if heavily reliant on debt).

Fourth, a significant scaling up of aid and debt-financed spending programs calls for enhanced attention to policies of risk management. The uncertainties involved—both in terms of the short-run volatility and long-run uncertainties of aid and the risks of a rising debt ratio—argue for risk management to be a central factor in the construction of the fiscal policy framework. Strengthened practices for assessing risk as well as policies for self-protection and self-insurance are essential in formulating a sound medium-term macroeconomic framework. The paper emphasizes three key elements of such an approach: supplementing existing debt sustainability assessments with medium-term vulnerability analyses under alternative scenarios; policies of self-protection; and a policies of self insurance centered on an explicit policy of higher reserve accumulation related to the degree of vulnerability of the budget, given its composition and sources of financing.

Fifth, a strengthening of institutions is vital if governments are to manage the absorption of scaled up aid and implement expanded service delivery programs and capital expenditure projects. This paper reaffirms the importance of strengthened PFM and enhanced efforts toward output-focused (and medium-term framed) budgets. But it also highlights that additional processes must be elaborated and institutions strengthened if governments are to manage and implement fiscal policy for development more effectively. In particular, countries should bolster their capacity to monitor and manage the terms and duration of prospective aid commitments.

And finally, donors will play a critical role in determining whether their financing of additional fiscal space can be translated effectively by recipient countries into productive and efficient development programs and projects. This entails enhanced donor coordination efforts and a greater willingness to make long-term predictable commitments. Donors should be encouraged to facilitate or finance initiatives that contribute to the implementation of smoothing or buffer mechanisms in exchange for well-designed medium-term expenditure programs in support of the MDGs. The latter may derive from either support for reserve accumulation efforts by recipient governments or donor pooling of some reserves.

References

- Adam, C, and D. Bevan, 2001, *Fiscal Policy Design in Low income Countries*, WIDER Discussion Paper No. 2001/67.
- Bevan, D., 2006, *Medium Term Frameworks: Fiscal, Budgetary and Expenditure* (powerpoint presentation).
- Boex, L., J. Martinez-Vasquez, and R. McNab, 1998, Multi-year budgeting: A review of International Practices and Lessons for Developing and Transition Economies, Georgia State university, International Studies Program, Working Paper 98-4
- Bohn, H., 1998, "The Behavior of U.S. Public Debt and Deficits," *Quarterly Journal of Economics*, 113 (August), pp. 949-963.
- Bulir, A., and A. J. Hamann, 2003. "Aid volatility: an empirical assessment". *IMF staff papers No. 50, 1*. International Monetary Fund.
- Bulir, A. and A. J. Hamann, 2006, "Volatility of Development Aid: From the Frying Pan into the Fire?" IMF Working Paper No. 06/65 (March 1)
- Celasun O., X. Debrun, and J. Ostry, 2006, "Primary Surplus Behavior and Risks to Fiscal Sustainability in Emerging Market Countries: A 'Fan-chart' Approach" IMF Working Paper No. 06/167
- Chowdhury, A and T. McKinley, 2006, *Gearing Macroeconomic Policies to Manage Large Inflows of ODA: The Implications for HIV/AIDS Programmes*, UNDP International Poverty Center Working Paper No. 17 (May).
- Eifert, B., and A. Gelb, 2005. "Improving the Dynamics of Aid: Towards More Predictable Budget Support". *Policy Research Working Paper No. 3723*. The World Bank.
- Fielding, D and G. Mavrotas, 2005, *On the Volatility of Foreign Aid: Further Evidence*," WIDER (unpublished).
- Foster, M. and D. Zormelo, 2002, *How, When and Why does Poverty get Budget Priority, Poverty reduction Strategy and Public Expenditure in Ghana*, ODI Working Paper 163(April)
- Gupta S., B. Clements, A. Pivovarsky, and E. R. Tiongson, 2003, "Foreign Aid and Revenue Response: Does the Composition of Aid Matter?" IMF Working Paper/03/176 (September, Washington: International Monetary Fund). Available at <http://www.imf.org/external/pubs/ft/wp/2003/wp03176.pdf>
- Gupta, S., R. Powell, and Y. Yang, 2006, *Macroeconomic Challenges for Scaling Up Aid to Africa: A Check List for Practitioners* (International Monetary Fund)

Heller, P., 2005a, "Understanding Fiscal Space," *Policy Discussion Paper No. 5/4* (International Monetary Fund)).

Heller, P., 2005b, "Pity the Finance Minister," vol. 6, no. 4, *World Economics* (October-December), pp. 69-110.

Holmes, M., and A. Evans, 2003, *A Review of Experience in Implementing a Medium Term Expenditure Framework in a PRSP Context: A Synthesis of Eight Country Studies*, (Overseas Development Institute).

IMF (2003) *World Economic Outlook*, September, Public debt in Emerging Markets

IMF (2005a), Update on the Assessments and Implementation of Action Plans to Strengthen Capacity of HIPC's to Track Poverty-Reducing Public Spending, IMF Board Paper, Washington

IMF (2005b) *The Macroeconomic of Managing Increased Aid Inflows-Experiences of Low-Income Countries and Policy Implications*. SM/05/306

IMF (2006) *The Managing Director's Report on Implementing the Fund's Medium-term Strategy* (International Monetary Fund)

IMF (2006a), *Review of Low-Income Country Debt Sustainability Framework and Implications of the Multilateral Debt Relief Initiative (MDRI)* (unpublished). SM/06/123

IMF (2006b), *The Federal Democratic Republic of Ethiopia: Selected Issues and Statistical Appendix* (IMF Country Report 06/122)

IMF (2006c), *The Federal Democratic Republic of Ethiopia: Staff Report* (IMF Country Report 06/159)

IMF (2006d), *The Multilateral Debt Relief Initiative—Progress Report on Implementation* IMF Country Report SM/06/116

Katz, M, U. Bartsch, Malothra and Cuc, 2004, *Lifting the Oil Curse, Improving Petroleum revenue Management in Sub-Saharan Africa*, International Monetary Fund

Lawson, A., R. Gerster, and D. Hoole, 2005, *Learning from experience with Performance Assessment Frameworks for General Budget Support* (November) OECD/DAC General Budget Support Evaluation.

Lawson, S., 2000 *Medium Term Expenditure Frameworks: Panacea or Dangerous Distraction?* Oxford Policy Management Policy Review (May)

Mattina, T., 2006, *Money isn't Everything: The Challenge of Scaling UP Aid to Achieve the Millennium Development Goals in Ethiopia*, IMF Working Paper No. 06/192 (August).

Obidegwu, C, 2005, *The Medium-Term Expenditure Framework: The challenges of Budget Integration in SSA Countries*, World Bank Africa Region Working Paper No. 82 (April).

Paris High Level Forum, 2005, *Paris Declaration on Aid Effectiveness* (OECD)

Tanzania, 2004, HIPC Public Expenditure Management Country Assessment and Action Plan (AAP), prepared by the IMF and World Bank in collaboration with the Tanzanian authorities. <http://www1.worldbank.org/publicsector/pe/HIPC/TanzaniaAAP2004.pdf>

World Bank (2005), *The Medium-Term Expenditure Framework: The Challenges of Budget Integration in SSA countries*, Africa Region Working Paper Series No. 82

World Bank, 2006, *Fiscal Policy for Growth and Development: An Interim Report* prepared for the Development Committee Meeting, April 23 (Washington: World Bank).

Ethiopia: Assessing the Risks from Revenue Volatility under Scaled-up Aid

Scaled up aid and multilateral debt relief pose a number of challenges to fiscal management. First, while debt sustainability is not an immediate concern, it remains important to prevent unhealthy drifts in the debt ratio, especially in economies where large exogenous shocks can easily derail debt dynamics. It is therefore critical to *monitor the debt path* implied by *medium-term fiscal policy* plans, and to *assess vulnerability to exogenous* disturbances. Second, the volatility of aid flows may test the cash management capacities of recipient countries, implying undesirable stop-go spending patterns if the liquidity constraint becomes binding when adverse shocks occur.⁵¹

To formulate sound advice on cash and debt management policies, consistent information is needed on (i) the expected debt path under alternative fiscal plans, (ii) indicators signaling vulnerability to liquidity problems, and (iii) an assessment of the risks stemming from exogenous macroeconomic and fiscal shocks.

The fiscal DSA template provides a useful tool of analysis. First, it lends itself very well to scenario analysis in which staff can simulate the liquidity and debt implications of changing key policy parameters (e.g. the revenue effort) or projection assumptions (e.g. potential output growth or the extent of available grant financing), giving an idea of the sensitivity of fiscal outcomes to these assumptions. Second, the DSA template allows an assessment of the impact of unexpected exogenous shocks on debt dynamics and liquidity indicators, either through stress testing or through randomizing the trajectory of key variables. While stress tests are useful to capture the vulnerability to large temporary shocks on these variables, randomization permits a more explicit and more complete assessment of the risks. Such risk analysis can be conducted under alternative policy scenarios to help shape advice on risk management strategies. For instance, staff can study the impact of varying key policy parameters such as the extent of reserve build-up in the face of aid windfalls or the mix of new financing, reserve depletion and expenditure adjustment in case of shortfall.

The case of Ethiopia (see IMF (2006b, 2006c) and Mattina (2006), which is based on the Ethiopian authorities' own expenditure plans)) offers interesting illustrations of scenario analysis. Along with an MDG scenario reflecting an assessment of the country's *needs* to reach MDGs, staff discuss an alternative baseline scenario in which average growth remains consistent with past performance (about 5 percent per annum instead of 7 percent in the MDG scenario) while aid flows are tied down to levels originally budgeted in 2005/06. In particular, scenario analysis is used to show that, in the MDG setup, replacing a third of the assumed aid inflows with concessional loans would bring the NPV of debt-to-export ratio to the 150 percent ceiling. Although simple scenarios provide useful indications on potential vulnerabilities, a more thorough assessment of the specific fiscal risks arising from scaled-up

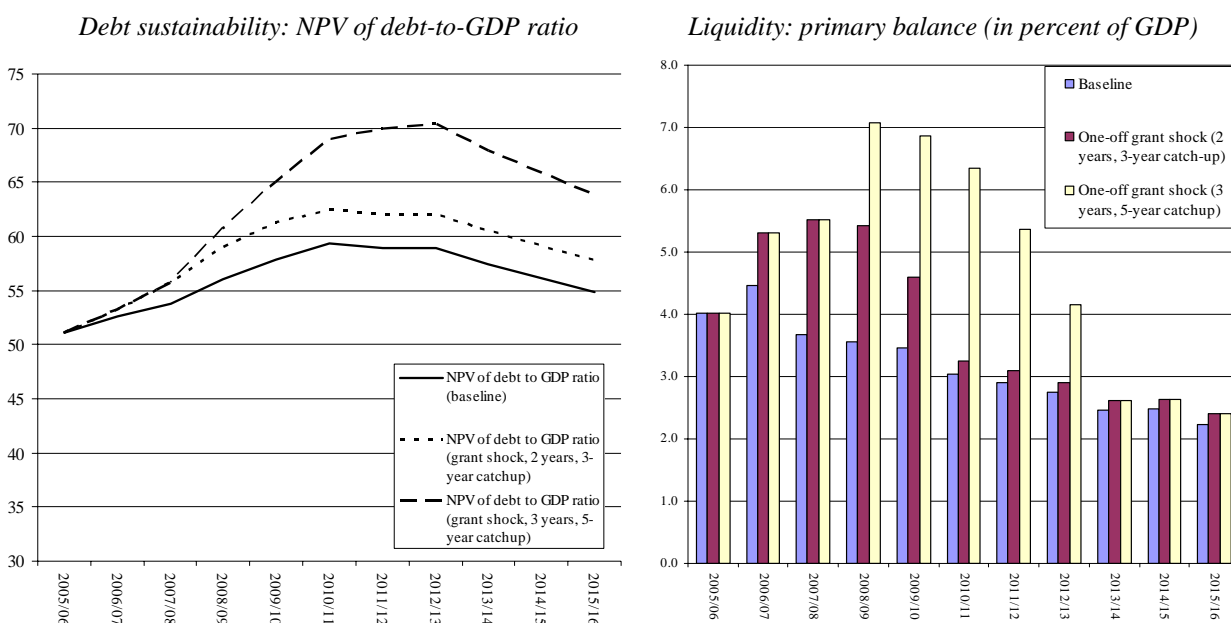
⁵¹ Also, the two issues are linked in a potentially vicious way as the new capacity to borrow may encourage countries to finance aid shortfalls and spend windfalls, creating an undesirable deficit bias.

aid can be performed with only minimal adjustments to the existing DSA framework. Illustrations below focus on the impact of aid volatility on sustainability and liquidity.

A common way to analyze risk in the DSA template is to *design stress tests*. These typically simulate the impact of large (but plausible) transitory disturbances on fiscal outcomes, keeping all other macroeconomic and policy assumptions unchanged. Although that approach has well-known drawbacks,⁵² it provides a good first-order approximation of potential sources of risk to the baseline.

Two stress tests on grants are considered to illustrate the extent to which aid volatility affects sustainability and liquidity. In the first test, growth in real grants is set equal to its historical average minus one standard deviation for 2006 and 2007. To avoid the permanent level effect of such shocks, grants (in real terms) are then assumed to converge back to the baseline path within 3 years.⁵³ The second, and somewhat stronger, test assumes a 3-year period of low (in this case, negative) aid growth combined with a 5-year catching-up phase (Figure 1). In this experiment, the *ceteris paribus* assumption implies that the authorities engage in complete expenditure smoothing, and that fully financing the aid shortfall has no impact on GDP growth, inflation or interest rates.

Figure 1—Ethiopia: Stress Tests on Public Sector Grants (2005-2016)



Source: IMF staff calculations

⁵² See Celasun, Debrun, and Ostry (2006) for a thorough discussion.

⁵³ The extent of this catching-up effect may vary depending on whether the aid shock reflects idiosyncratic donors' behavior or home-grown policy slippages or governance issues.

The left-hand panel of Figure 1 suggests that debt dynamics appears to remain manageable even with a fairly significant shock on aid flows. In the worst case scenario, the cumulative effect of the disturbance on the NPV of debt peaks at about 10 percent of GDP by 2012 and then declines.

While the MDRI has eased Ethiopia's solvency constraint, the liquidity risk remains high, as evidenced by the sharp increase in the primary deficit (right-hand panel of Figure 1). Under the staff baseline scenario that assumes a modest scaling up of expenditures, the fiscal deficit, excluding grants, is set to widen over the medium-term to over 10 percent of GDP. Under the more ambitious MDG-scenario the fiscal deficit excluding grants would increase sharply, peaking in 2010/11 at almost 30 percent of GDP with the resulting annual resource gaps met by a projected increase in external assistance, reaching over US\$6 billion in 2015/16, an increase in per capita terms from about US\$11 in 2004/05 to almost US\$65 by 2015/16. The presence of significant excess reserves in the banking system and high levels of public domestic debt, at over 30 percent of GDP, suggest that the scope for significant increases in domestic financing (even temporary ones) is limited, without recourse to destabilizing inflationary financing.⁵⁴ This severely limits the extent to which the authorities would be able to offset the impact of a grant shock to fund scaled up expenditures through domestic measures.

Additional foreign reserves may also be required to manage the large and possibly lumpy aid flows. Ethiopia's gross official foreign reserves are relatively low by developing country standards, equivalent to around three months of goods and nonfactor service imports in 2005/06 or less than 12 percent of GDP. At current aid levels the ratios of foreign reserves to budgetary grants and domestic debt are around 2.65 and 0.36 respectively. It is therefore unlikely that the above aid shock, which would reduce grant inflows by a cumulative 2 percent of GDP over two years, could be offset by drawing on these reserves.⁵⁵ This suggests that "the management of potentially large and lumpy aid inflows will be a challenge that will require a mix of policy responses depending on the specific circumstances, including a temporary accumulation of reserves, until the aid flows can be productively spent."⁵⁶ Under the MDG scenario, the ratio of foreign reserves to budgetary grants would fall even further, to a low of around 0.65, despite the proposed increase in the reserve levels to over 17 percent of GDP. This would leave Ethiopia's spending plans extremely vulnerable to swings in aid

⁵⁴ The solvency and liquidity implications of the proposed scaling up of expenditures to meet the MDG targets is discussed in detail in the IMF (2006b). The baseline scenario is taken from the 2006 Article IV consultations with the IMF.

⁵⁵ Ethiopia's foreign exchange reserves are held by the central bank and used for monetary policy purposes and are therefore not a direct fiscal substitute for grants. The authorities would also want to maintain a minimum buffer for exchange rate and monetary management.

⁵⁶ *Ibid.*, p.17

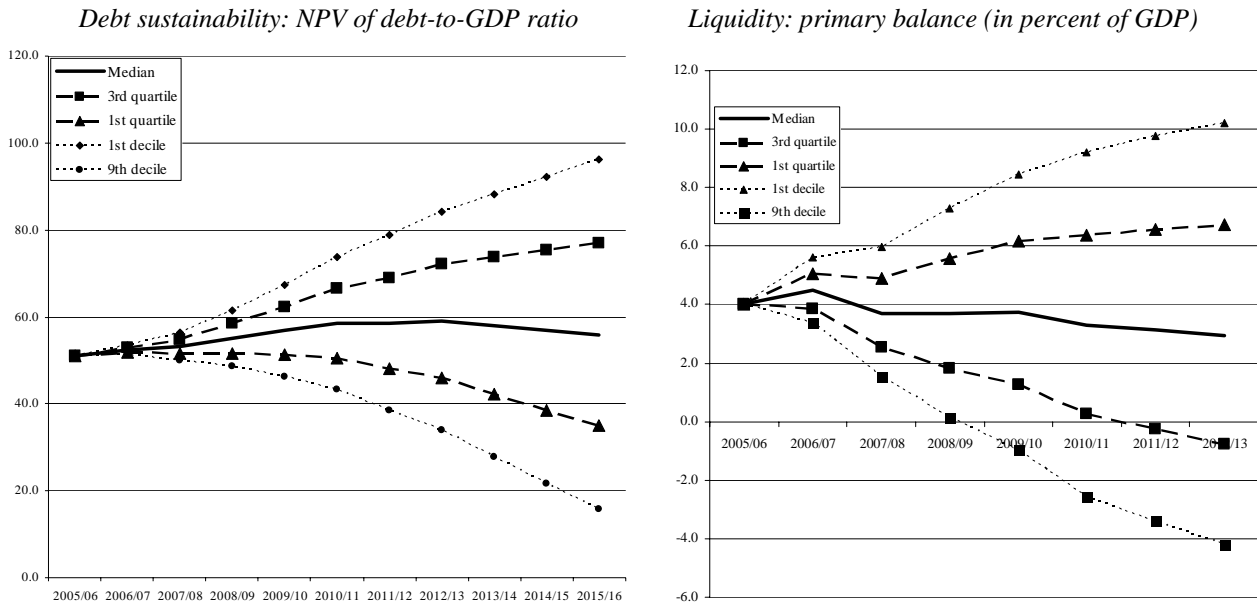
levels as it would be unlikely that sizeable timing mismatches between aid inflows and expected expenditures could be met through a drawdown of foreign reserves.⁵⁷

The calibration of stress tests is potentially subject to endless debate as regards the plausibility of the specific shock under consideration. To provide a more complete picture of the extent to which grant volatility affects liquidity and sustainability risks, “fan charts” can be constructed. These depicts confidence bands around the median scenario. In Figure 2, zero-mean and normally-distributed transitory shocks are supposed to affect the expected path of real public sector grants (using the historic variance of real grants).⁵⁸ The wider cone represents a mass of probability of 80 percent, whereas the bold dotted lines delineate the 50 percent confidence interval. The charts, which continue to assume that all other policy and macroeconomic assumptions hold, confirm that the liquidity risk—captured by the primary deficit including grants—is a more immediate concern than debt sustainability, although the latter now appears non-negligible.

⁵⁷ The MDG scenario envisages a considerable amount of frontloaded capital expenditure with a high import content. While this mitigates the extent to which domestic liquidity will be injected in to the economy the strategy requires substantial foreign exchange for ‘lumpy’ investments.

⁵⁸ Disturbances on levels are preferred to those on growth, to avoid any “logarithmic bias” on the resulting aid flows.

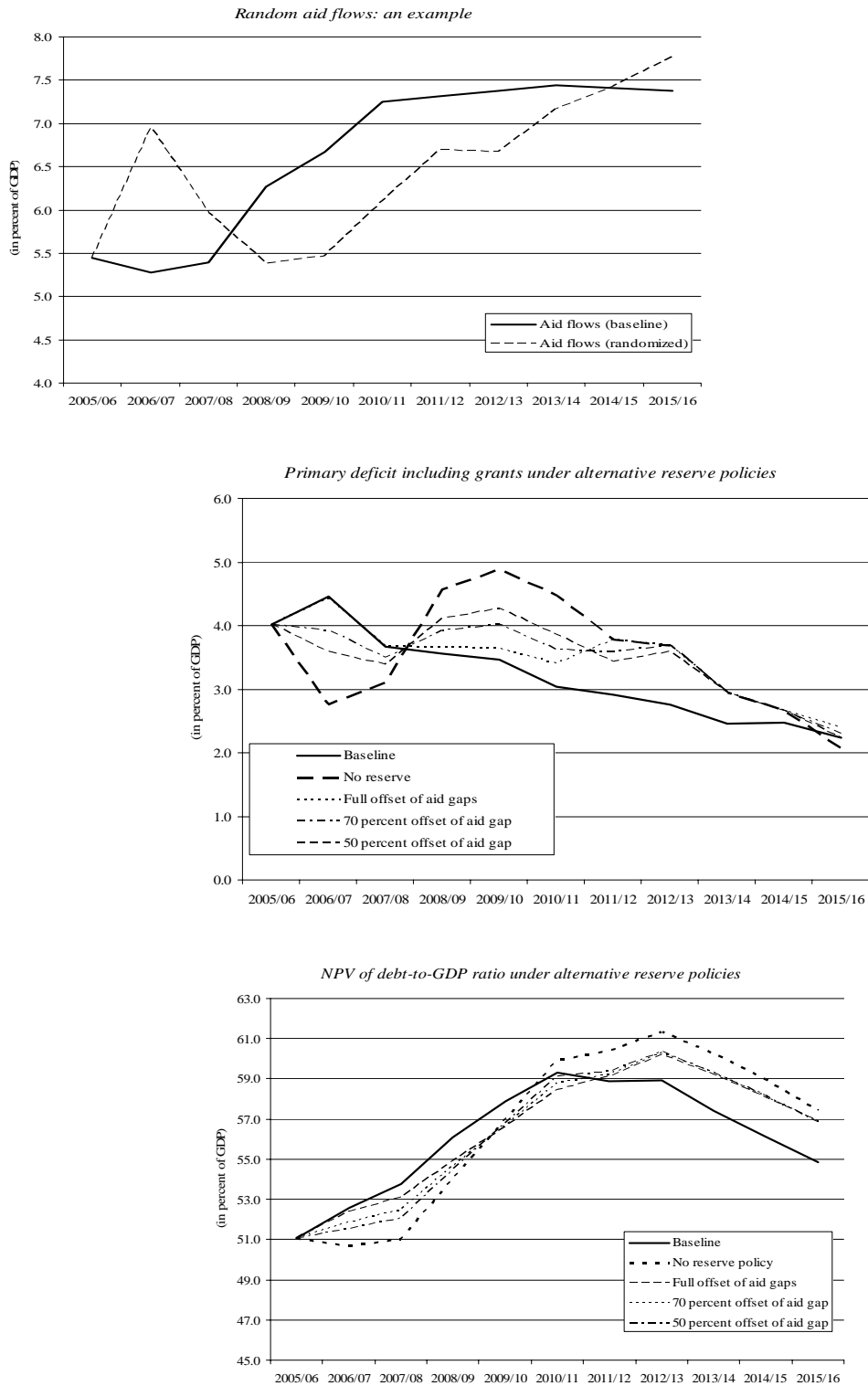
Figure 2—Ethiopia: Risks Related to Grant Volatility (2005-2016)



Sources: IMF staff estimates.

A natural policy response to grant volatility is to offset shortfalls by drawing on reserves accumulated when windfalls occur. For a given degree of aid volatility, it is straightforward to see that such policy reduces the risk of illiquidity—and correspondingly the likelihood to adjust expenditure—while moderating public debt fluctuations. The top panel of Figure 3 displays one particular random aid path consistent with the above fan charts. In that specific case, substantial windfalls occur in 2006/07 and 2007/08, bringing aid well above the levels projected in the baseline. The second panel illustrates that the absence of reserve policy is more likely to entail liquidity problems when shortfalls materialize because the latter are fully reflected in the primary deficit. In contrast, a reserve policy aimed at offsetting differences between actual and projected aid prevents significant jumps in the primary deficits, except by 2011/12, when reserves are exhausted. A smoother debt path also follows (bottom panel of Figure 3). The charts show that alternative reserve policies, whereby part of the aid shocks are reflected in the primary balance, provide less effective protection against liquidity risks.

Figure 3- Ethiopia: Hypothetical Effect of Alternative Reserve Policies



Source: IMF staff estimates.