

# **Fiscal Implications of the Global Economic and Financial Crisis for Low-Income Countries**

**A paper prepared for DFID**

**David Bevan  
Department of Economics  
Oxford University  
March 2010**

The views expressed in this paper are those of the author and do not necessarily  
reflect those of DFID

# **Fiscal Implications of the Global Economic and Financial Crisis for Low-Income Countries**

## **CONTENTS**

<b>Executive Summary</b>	<b>3</b>
<b>Introduction</b>	<b>5</b>
<b>The context</b>	<b>6</b>
<b>PART 1: Nature and Consequences of Fiscal Policy in Low-Income Countries</b>	<b>7</b>
<b>1.1 Introduction</b>	<b>7</b>
<b>1.2 Stabilization and Growth</b>	<b>8</b>
<b>1.3 Maintaining Fiscal Control</b>	<b>10</b>
<b>1.4 Financing, the Inter-Temporal Budget Constraint, Solvency, and Sustainability</b>	<b>11</b>
<b>1.5 Fiscal Space, Fiscal Flexibility, and Fiscal Rules</b>	<b>15</b>
<b>1.6 Debt Sustainability</b>	<b>17</b>
<b>1.7 Growth and Physical Capital Formation</b>	<b>22</b>
<b>1.8 The Relative Size of Government over Time</b>	<b>26</b>
<b>1.9 Summary</b>	<b>28</b>
<b>PART 2: Fiscal Responses</b>	<b>30</b>
<b>2.1 Introduction</b>	<b>30</b>
<b>2.2 Pro- and Countercyclical Fiscal Policy</b>	<b>30</b>
<b>2.3 Fiscal Stimulus</b>	<b>32</b>
<b>2.4 Constraints on Short-Term Expenditure Choices</b>	<b>35</b>
<b>2.5 Fiscal Responses to Date</b>	<b>37</b>
<b>2.6 Summary</b>	<b>38</b>
<b>References</b>	<b>40</b>

## **Executive Summary**

Both the origins of the current crisis and the determinants of its future evolution lie outside the low-income countries themselves. In these countries, GDP did not in general fall, but growth was sharply reduced in 2009, to less than half the pre-crisis rate of over 5 percent. This has been associated with declines in exports, remittances and FDI; the prospects for aid are uncertain. The fiscal effects have been large and reflect revenue losses, with commodity-related revenues being particularly affected.

### **PART 1: Nature and Consequences of Fiscal Policy in Low-Income Countries**

Fiscal policy includes actions which affect the balance between government revenue and expenditure, i.e. the budget surplus or deficit, the evolution of this over time, and hence the evolution of its stock counterpart – government debt. Attention must also be paid both to the scale of government activities, and to their composition. Fiscal policy design must be forward looking, but rooted in the country's "initial conditions".

Many low-income country governments have been successful in stabilizing their economies in recent years, but this has not always led to the anticipated acceleration in growth; in any case, countries have found it difficult to maintain fiscal discipline even when they have once achieved it.

Fiscal policy must respect the inter-temporal budget constraint; but it is important not to get hung up on a long or indefinite horizon; practical design requires a medium-term perspective. Macroeconomic stabilization and fiscal control, coupled with debt relief, have made it possible to explore more flexible fiscal options, or "fiscal space". However, control was often achieved by the draconian short-term device of a cash budget, and it will be important to shift to more complex fiscal rules that combine prudence with flexibility.

Debt sustainability analyses have become universal in the low-income context, play a central role in discussions of fiscal options, and bounds on debt may be incorporated in fiscal rules. However, the conventional approach has shortcomings, and it is important to be alert to these and not to allow any mechanical application of it to distort good judgement.

Low-income countries typically have very substantial infrastructure deficits, which it is vital to rectify. Successful investment should raise the achievable growth rate, which is not only desirable in itself, but would also feed back in a benign way into the debt sustainability issue.

### **PART 2: Fiscal Responses**

There is a large empirical literature that finds fiscal policy in developing countries to be highly procyclical, in contrast to high-income countries where it is usually found to be countercyclical. It seems that it is very difficult to design and implement policies that are countercyclical in these countries, and all too easy to do the converse.

The IMF has argued that countries with output gaps and sustainable debt and financing options have scope to implement expansionary policies. Other countries will

simply have to adjust, though additional donor support would reduce the extent of the adjustment. In brief, the argument is “finance if you can, adjust if you must”. However, even if developing countries are able to get the direction of discretionary policy right, the associated multipliers are rather small and short-lived, going into reverse in the medium term.

The general conclusion is rather daunting; automatic stabilizers are likely to offer only a modest stimulus; discretionary policy may have a delayed, limited and temporary effect, with no guarantee that the overall impact will be of the right sign, and runs the risk of becoming embedded. In other words, the beneficial impact on the economy may be short-lived, but the fiscal changes that delivered the original stimulus may not.

Any short-term fiscal stimulus is better applied on the expenditure side than the revenue side of the budget. The only two categories of spending that are likely to be fruitful in a countercyclical context are *existing* pipelines of freestanding ready-to-go capital and public works projects on the one hand, and *existing* cash transfer programmes on the other. In neither case would it be effective to attempt to *create* these as a response to the crisis. In consequence, the government’s short-term expenditure choices are highly constrained.

As to what has actually been happening, fiscal deficits are increasing in three-quarters of low-income countries; this reflects the functioning of automatic stabilizers, predominantly on the revenue side. However, almost one-third of countries are augmenting these with some discretionary stimulus, concentrating on the expenditure side, mostly on current expenditure. Overall, the explicit fiscal stimulus does involve a more countercyclical response than shown in previous downturns. This was made possible by two developments prior to the crisis; widespread success in moving towards a more prudent fiscal regime, and the equally widespread provision of external debt relief. Whether this countercyclicality will be sustained is not yet clear; increases in current spending are notoriously difficult to reverse. To finance these larger deficits, countries are relying primarily on additional domestic financing, with a lesser contribution from external concessional support. There are potential sustainability issues.

## Introduction

Three circumstances are important in defining the approach followed in this paper.

- Both the origins of the current global economic and financial crisis and the determinants of its (uncertain) future evolution lie outside the low-income countries themselves. To a degree, these countries are also insulated from the immediate mechanisms involved and the need to respond directly to these. However, they are likely to be seriously affected both by the crisis itself, and by the policies adopted by other countries in responding to it.
- Even prior to the crisis, there has been an active debate about the nature and role of fiscal policy in developing countries, and this is far from being resolved. Here fiscal policy will be defined rather broadly to include the composition of public expenditure, notably the division between capital and current expenditures, and also the scale of government activities relative to the economy.
- Quite apart from these general issues, the circumstances of different countries differ markedly, both in terms of their exposure to the shock, and in terms of the constraints on their possible fiscal response to it.

Hence the fiscal implications of the crisis for low-income countries depend on the way the crisis unfolds; on external policy actions, notably those of the countries in the Group of Twenty; on the likely effectiveness of their own fiscal policy; and on their own fiscal constraints.

The paper focuses on key fiscal and public spending issues, and reviews policy options facing the authorities. Two aspects may be highlighted. First, while the immediate concern is with how best to handle the consequences of the global shock, these choices must be made in the context of a much longer perspective. It might seem tempting to set out to analyse a country's short-term fiscal options, faced with the consequences of the global crisis, in isolation from longer-term issues. However, this would be a mistake. Many low-income countries have in any case been undergoing very rapid fiscal and economic change, and will continue to do so in future. This change does not simply involve aggregate growth, but structural and geographical change, and in many cases change in the scale and composition of government activities. Hence the short-term fiscal and economic shocks, and responses to them, need to be seen in this rapidly evolving wider context. The analysis of shocks is not the same if they occur in an already dynamic, disequilibrium system as it would be if they occurred in a stationary one, or one that was following some balanced path.

The second aspect to be highlighted is that each country's position and characteristics need to be considered in a wider context. This is not simply because the country is part of a whole set of wider systems, and the shocks it suffers, its options, and its opportunities, will inevitably reflect the behaviour of these wider systems. It is also because we cannot know enough about the relevant mechanisms that mediate these shocks and opportunities from the study of a single country. If we wish to get a quantitative handle on the size of fiscal multipliers, for example, we are forced to

examine the data for a wide number of countries. Of course it is true, in the popular adage, that “one size doesn’t fit all”, but it is necessary to have some means of assessing what the relevant size might be.

The paper has two substantive parts. The first provides an extended discussion of recent debates concerning the nature and consequences of fiscal policy in low-income countries as well as summarizing the available evidence.<sup>1</sup> The second part assesses the pros and cons of various fiscal responses that are available to governments in low-income countries, as well as summarizing the sorts of action they have taken to date.

### **The context**

While there is likely to be a fiscal deterioration everywhere, this will be particularly marked in the advanced economies, where the increase in both government debt and contingent liabilities is projected to be unprecedented in scale and pervasiveness since the Second World War. Equally problematic, these countries were already facing severe long-run challenges in the context of rapidly aging populations. The IMF projects that the overall deficit of the G-20 countries averaged 8% of GDP during 2009. Government debt in these countries is projected to reach a staggering 120% of GDP by 2014, up from about 80% in 2007, and this is assuming that no renewal of fiscal stimulus is required after 2010.<sup>2</sup> The popular wisdom is that this spike in public debt is the counterpart to the effort to prop up financial institutions, but this is a minor part of the story; the bulk of it simply reflects old-fashioned deficit finance. The medium-run projections also include a substantially slower recovery than this “base case”, with consequently more severe fiscal consequences. In any event, aid disbursements may be substantially compromised.

At least these gigantic fiscal efforts seem to have been successful in staving off a major depression, reducing the duration of the recession, and inducing a muted return to growth. The Fund’s forecasts of world growth have been continuously revised upwards and now stand at about 4% for 2010.<sup>3</sup> Its estimate of the losses derived from the crisis has also been continuously revised downwards and stood at (only!) \$3.4 trillion as of October 2009. There are however still substantial downside risks, with banks facing an impending funding crisis in 2011-13 and risks of a sovereign debt crisis.

In the low-income countries, GDP did not in general fall, but growth was sharply reduced in 2009, to less than half the pre-crisis rate of over 5 percent. Sub-Saharan Africa was the worst affected, with a contraction of real per capita GDP of nearly 1 percent. This has been associated with declines in exports, remittances and FDI; the prospects for aid are uncertain. The fiscal effects have been large and reflect revenue losses, with commodity-related revenues being particularly affected.

---

<sup>1</sup> Data for low-income countries are often inaccurate, sparse or lacking, so empirical evidence is very patchy. Recourse must frequently be had to developing countries more generally. On the other hand, there has been a concerted focus on the subset of low-income countries which occupy much of Sub-Saharan Africa, so some evidence is specific to these. However, they account for 70 percent (30 out of 43) of the countries classified as low-income in the World Bank’s categorization at July 2009, so they constitute the preponderant component of this group.

<sup>2</sup> IMF 2009i.

<sup>3</sup> IMF 2010.

# **PART 1: Nature and Consequences of Fiscal Policy in Low-Income Countries**

## **1.1 Introduction**

Some purists wish to restrict the term ‘fiscal policy’ to actions which affect the balance between government revenue and expenditure, i.e. the budget surplus or deficit, the evolution of this over time, and hence the evolution of its stock counterpart – government debt.<sup>4</sup> However, it is impossible to focus on these net effects or their consequences without paying some attention both to the scale of government activities, and to their composition.<sup>5</sup>

By the same token, it is inappropriate to discuss the fiscal implications of shocks, or fiscal responses to them, without some framework within which to think about fiscal policy in general.<sup>6</sup> First, there are likely to be pretty complicated dynamics going on anyway, which will have involved a set of choices. Adding the shock requires some alteration in these dynamics and the associated choices; the shock does not take place against a neutral background. Indeed, it is difficult to know how neutrality might be characterized in the fiscal context, despite the popularity of this phrase. Consider, for example, a country achieving steady real growth with constant low inflation, a constant velocity of circulation, and an initial stock of public debt held by the domestic private sector. Is a balanced budget neutral? Then it will be associated with a continuous shift in assets and liabilities, with public debt falling relative to national income, and private assets either falling or shifting into increased real capital.<sup>7</sup> Is maintenance of a constant ratio of public debt to income neutral? Then it will be associated with continuous deficit finance.

The key point is that fiscal policy design must be forward looking, but rooted in the country’s “initial conditions”; history matters because it is the major determinant of these initial conditions.

This part of the paper sets out to provide and discuss an appropriate framework. It has seven substantive sections. Section 1.2 provides some background on stabilization and growth, noting that many low-income country governments have been successful in stabilizing their economies in recent years; that this has not always led to the anticipated acceleration in growth; and discussing the reasons for this. Section 1.3 then reviews evidence concerning the difficulties low-income countries have had in maintaining fiscal discipline, once they have achieved it. Section 1.4 summarizes the financing options, introducing the government’s inter-temporal budget constraint as the key fiscal concept, and taking a first look at solvency and sustainability issues.

---

<sup>4</sup> Indeed, much early work in the Keynesian tradition focused exclusively on the flow aspect, with a cavalier disregard for the cumulative stock consequences. This would now be universally regarded as dangerously misleading.

<sup>5</sup> There is also the issue of what public entity is to be analysed; central government, general government (which includes local government), or the public sector (which also includes the central bank and other public financial and nonfinancial enterprises). Data limitations in low-income countries usually restrict analysis to central government.

<sup>6</sup> A helpful source is Gupta et al, 2004b. See also IMF 2009h, chapter 2 on fiscal policies in SSA.

<sup>7</sup> Of course, a different conclusion would be reached if the private sector were represented as an infinitely lived individual with perfect foresight, but that is not a useful starting point for the analysis of fiscal policy in low-income countries, despite its popularity amongst academic analysts.

With these building blocks in place, section 1.5 examines the possibilities for fiscal flexibility, now often subsumed in the term “fiscal space”, and the potential role of fiscal rules. Section 1.6 returns to look more closely at the debt sustainability issue, which proves to be a rather slippery concept in the context of concessionality. Section 1.7 turns to the composition of public expenditure, and to the role of public capital in underpinning growth. Section 1.8 examines considerations that help determine the size of government and how that may evolve over time, and the implications this may have for financing. Section 1.9 concludes

## **1.2 Stabilization and Growth**

In many developing countries, there has been a radical improvement in the quality of macroeconomic management in general, and of fiscal policy in particular. For these countries, stabilization has been substantially achieved, though ensuring maintenance of this stability will remain a serious policy concern for the indefinite future. Despite this success, there remains pervasive disquiet about the current formulation and conduct of fiscal policy. This disquiet is based partly on the perception that stabilization may have been purchased at an unnecessarily high price in terms of foregone output and welfare, and partly on the perception that its maintenance may be purchased at the price of slower growth and development than might be achievable. There is no constituency arguing that increased growth should be – or could be – obtained by sacrificing stability. There are, however, a number of constituencies believing that existing policy packages could be improved, so that they delivered more growth without sacrificing stability<sup>8</sup>.

### *Stabilization with accelerated growth*

In some cases, successful stabilization has indeed been accompanied by an acceleration in the growth rate. For these countries, the goal is to extend both of these achievements into the long term.<sup>9</sup> Unfortunately, the historical record suggests that this is very difficult to achieve; it is littered with growth accelerations that peter out, and with stabilizations that are not sustained. As already noted, a failure to maintain fiscal control is very likely to prejudice achievement of an ambitious growth target. However, successful maintenance of control may not be sufficient to maintain a higher growth rate, even if it enables it to be achieved in the short run. One argument is that any package of reforms permits the economy to move to a higher income level. During the transition to this higher level, growth accelerates, but once it is achieved, growth reverts to its previous rate. Maintenance of the higher growth rate requires further reforms, so that the cycle can be repeated at a still higher level.

### *Stabilization without accelerated growth*

However, there are other countries where the improvements in macroeconomic policies have not yielded the type of improved growth performance that had been

---

<sup>8</sup> The contribution of the IMF itself to this process should not be underestimated. For relatively early examples, see, among many others, IMF, 2005, and Daniel et al, 2006.

<sup>9</sup> Of course, even when a growth acceleration has been achieved, it is open to question whether a faster acceleration might have been possible with a different stabilization design.

expected.<sup>10</sup> There are a number of possible explanations for this; three are distinguished here.

In the first, private agents (domestic or foreign) are not yet persuaded that the policy improvements will be sustained. This scepticism may reflect a government's poor reputation, which will take an extended period of improved performance to redeem. It may be rooted in the perception that the macroeconomic reforms had a very short-term design, and will require major further efforts if they are to be sustained. In either case, private agents may defer taking the sorts of action that will generate accelerated growth, while they "wait and see". This explanation has clear fiscal implications. If the problem is reputation, it may be necessary for government to act for a period in a way that is more conservative than "objective" prudence would require. Alternatively, there may be enhanced scope for adoption of some self-denying commitment mechanism, a fiscal rule of some sort. On the other hand, if the problem is a fragile stabilization design, further work will be required to turn it into something more robust. In effect, the stabilization is incomplete.

A second possibility is that, even when sustained macroeconomic stabilization is credible, (i.e. private agents are persuaded that it will be sustained), it may have been achieved with a fiscal configuration that is discouraging to growth. The tax system may have major disincentive effects, or the composition of expenditure may be tilted away from productive activities. For example, the stabilization process may not have rectified a long-standing neglect of public infrastructure, or may even have exacerbated this. This explanation also has direct implications for fiscal policy, suggesting the need to re-examine the design of the tax system, the composition of expenditure, and possibly the levels of revenue, expenditure, and the deficit.

A third possibility is that macroeconomic instability was not the primary constraint to growth, or even if so, was closely followed by another set of constraints to growth requiring appropriate reforms. Examples might be the need for institutional reforms in the domestic financial sector, the need for clearer and more secure property rights, or the need for removal of bureaucratic hindrances to private investment. In this situation, achieving macroeconomic stability may be a necessary condition for enhanced growth, but it will certainly not be sufficient. This explanation has no substantial direct fiscal implications, but does require a set of complementary policy actions.

Since the focus of this paper is on fiscal policy, attention will be restricted to the first two cases, while noting the likely importance of the third in any wider strategy to promote accelerated growth.

---

<sup>10</sup> There is no space here to discuss individual country experiences. However, the flavour of the differential outcomes can be obtained from some grouped statistics. For Sub-Saharan Africa, the overall fiscal balance after grants averaged out at a deficit of 2.6 percent of GDP during 1997-2002, and a surplus of 1.3 percent over 2003-2008, an improvement of 3.9 percent. In the same intervals, real growth improved from 4.1% to 6.2%. Excluding oil exporters, fragile states, and South Africa, the comparable figures for middle-income countries are a budget improvement of 1.9 percent, but a fall in growth from 5.7% to 4.5%, while for low-income countries, a budget improvement of 1.5 percent was associated with an increase of growth from 4.1% to 6.5%. (IMF 2009d)

Quite apart from the present crisis, low-income countries are particularly prone to shocks. These shocks may themselves destabilize the economy, and may lead to growth slow-downs, as well as having direct welfare effects.<sup>11</sup> The government's response should be to try to minimize these adverse effects. At best, there is likely to be a difficult trade off between them; in practice, all too often, government responses have exacerbated rather than ameliorated these effects. These matters are discussed at length in Part 2 of the paper.

### **1.3 Maintaining Fiscal Control**

While there may be some dispute over what constitutes an optimal long-run fiscal stance for developing countries there is little, if any, about the importance of ensuring that this stance persists over time.<sup>12</sup> A number of papers have studied variations in the persistence of periods of fiscal stability, contrasting the experience of middle-income and low-income developing countries with those of the OECD.<sup>13</sup>

Fiscal outcomes are found to differ markedly between OECD and developing countries. For the OECD the fiscal stance is, on average, broadly stationary with a strong cyclical component. By contrast, for developing countries over the last three decades this pattern is the exception rather than the rule. Rather, the fiscal stance is highly asymmetric, vulnerable in the face of adverse output shocks, and not particularly buoyant in the face of positive shocks, with the consequence that extended periods during which a broadly sustainable fiscal stance is maintained are comparatively rare.

Several findings emerge from this analysis, all of which have important implications for 'mature stabilizers'. First, the persistence of periods of fiscal stability, and their determinants, differ between OECD and developing countries, but much more markedly between middle- and low-income countries. In each case, higher incomes are associated with greater persistence. Little of this difference can be explained simply in terms of structural features of the economies, although richer countries generally face better prospects, while fiscal stability in natural resource dependent economies is significantly more vulnerable to terms of trade movements and the adverse effects of conflict than elsewhere. But the types of structural feature that often emerge as important explanatory variables in empirical work (the composition of GDP, openness to trade, and income equality) appear to have little impact on persistence. An exception is size of government, which is inversely related to persistence. The evidence also gives some support to the view that fiscal discipline is better supported by flexible rather than fixed exchange rates, although these effects are relatively weak across all developing countries: they do not suggest that

---

<sup>11</sup> This is unsurprising in the case of adverse shocks; however, paradoxically, it can also be true of shocks that are apparently favourable, but temporary.

<sup>12</sup> There is copious evidence that it is vital to achieve stabilization if the economy is to achieve satisfactory growth. See, for example, Hnatkovska and Loayza, 2003, and Little et al, 1993, especially chapter 10.

<sup>13</sup> The following discussion for low-income countries draws on Adam and Bevan, 2004. An example of the rather different findings for the OECD is Alesina and Perotti, 1997.

arguments about choice of exchange rate regime should hinge on different regimes' impacts on fiscal discipline.

Second, fiscal prospects depend quite heavily on aspects of a country's fiscal history. A recent history of inflation and a track record of poor fiscal management act as a drag on current fiscal performance. For OECD and middle-income countries, as stability endures the adverse effects of a poor track record depreciate; good fiscal policy is, in effect, self reinforcing. Though traces of the same effect are present for low-income countries, the half-life of a poor fiscal history is significantly longer for this group; governments in low-income countries would appear to have to hold their feet to the fire for much longer to erase the legacy of past fiscal indiscipline.<sup>14</sup>

Finally, and in contrast to the OECD countries, what really matters for developing countries, and especially for low-income countries, are fiscal adjustments brought about by improved domestic revenue mobilization.<sup>15</sup> These significantly prolong the duration, both in their own right and, for low-income countries, compared to equivalent reductions in government expenditure. These results reflect deeper processes at work. First, the fact that fiscal adjustments engineered through (aggregate) expenditure cuts do not persist is entirely consistent with the literature on adjustment failures. We know that expenditure reductions tend to be easily reversed and those that are sustained tend to be concentrated in areas such as maintenance and investment expenditure which may well leave public finances less rather than more sustainable in the future. By contrast, sustained improvements in domestic revenue mobilization often requires substantial institutional reform and political commitment, both of which may arguably be less easily reversed; what these results show is that the return to this effort is a significantly more stable fiscal performance.

#### **1.4 Financing, the Inter-Temporal Budget Constraint, Solvency, and Sustainability**

The proper treatment of time is always important in economics but it is particularly central to the analysis of fiscal policy. There is an interconnected web of reasons for this. Fiscal policy is in part a means of permitting the time path of government expenditures to follow a different track from the path of its revenues. Of course, these two paths must be related to each other in an appropriate way, and this requirement is embodied in the government's inter-temporal budget constraint. Since this constraint must bind over the indefinite future, there is a real issue in judging whether the government's current actions can form part of a future programme that satisfies it. This is the issue of sustainability. If current policies would not be sustainable if continued indefinitely, then changes will have to be made in future.

However, it is important not to get too focused on the idea of sustainability as a condition which may be violated. Often, the more interesting issue is whether a current policy combination is ill-advised from an inter-temporal perspective, even though sustainability is not really an issue. In other words, will it leave the economy in a less desirable position than necessary over some finite – possibly quite short – horizon? There is an indefinitely large set of alternative sustainable strategies some of

---

<sup>14</sup> Other evidence that it takes a long time to rebuild a good fiscal reputation is provided in Gupta et al, 2004a.

<sup>15</sup> Gupta et al, 2005, find a similar result for emerging market economies.

which may be pushing the bounds of sustainability, others not. An inter-temporal strategy may be highly undesirable, even though perfectly sustainable.

### *Financing*

Budget deficits must be financed by some combination of four financing instruments; grants, money financing, domestic borrowing, and external borrowing. There is some debate as to whether deficits should be measured before or after grants, which are important in low-income countries. Grants impose no obligation to repay, and do not raise indebtedness. On the other hand, it may be dangerous to become dependent on them, since they are not under the control of the recipient government. If substantial grants are withdrawn, an intolerable fiscal adjustment may be required. However, in assessing the financing implications of any given budget, it is the balance after grants that matters.

A limited amount of money financing (seigniorage) is feasible, and indeed desirable, without inducing unacceptably high inflation. Empirical evidence suggests that in developing countries the growth-maximising rate of inflation might be in the range 5-8% per annum.<sup>16</sup> Attempts to finance spending by driving inflation above this level will eventually be at the expense not only of higher inflation, but slower growth and reduced seigniorage. On a sustained basis, seigniorage is unlikely to generate more than 0.5-0.75% of GDP, and for dollarized economies, much less than that.<sup>17</sup>

Domestic borrowing has the advantage of being repayable in domestic currency, without foreign exchange risk.<sup>18</sup> On the other hand, it risks driving up domestic interest rates and crowding out private investment. When, as in most low-income countries, the domestic financial markets are thin, interest rates may also be extremely volatile. It has been argued that domestic debt in excess of 15-20% of GDP is imprudent in these countries. Since far more attention has been devoted to the risks of external borrowing, the data for domestic debt have remained very poor.

External borrowing may be at market rates, or, for low-income countries, on concessional terms. In the former case, the nominal value of an increment to debt is a fair summary of the costs of servicing it. In the latter case, these costs are reduced by the extent of the concessionality – the ‘grant element’. It is now routine to calculate the net present value of concessional debt by discounting these costs at a market interest rate. The flow analogue to this stock treatment would be to split the borrowing between a market element, taken ‘below the line’ as part of deficit financing, and a grant element, taken ‘above the line’ along with outright grants and revenue. This proposal is controversial and the IMF has not (except fleetingly) adopted it. Hence the commonly calculated deficit ‘inclusive of grants’ may exaggerate the increase in government indebtedness.

Evidently, fiscal policy is only one component in the wider economy, and the financing of a fiscal deficit will have far-reaching consequences. It is apt to “spill over” into other parts of the economy. Much has been made of the possible link with

---

<sup>16</sup> See Ghosh and Phillips 1998, and Khan and Senhadji 2001.

<sup>17</sup> Because the domestic monetary base, issued by the authorities, is correspondingly reduced.

<sup>18</sup> Recent innovations have been eroding this feature, however.

inflation, though the empirical evidence for this link is surprisingly weak.<sup>19</sup> Two other links may be noted here. First, there appears to be a non-linear (u-shaped) link with growth.<sup>20</sup> While high deficits are pretty bad for growth, a balanced budget seems to be mildly less growth enhancing than a small deficit, say at around 1.5% of GDP. Second, there may be important links between the fiscal and current account deficits, particularly for permanent fiscal deficits. One theoretical paper finds that, for a small open economy, a sustained increase in the fiscal deficit might translate into an equivalent deterioration in the current account.<sup>21</sup>

Domestic and external borrowing are both considered in more detail in the section on debt sustainability below.

### *The inter-temporal budget constraint (IBC)*

The overall balance considered so far includes interest payments on government debt as expenditures. The ‘primary’ balance is constructed by excluding these payments. (Notice that where government interest payments are significant, it is quite possible for a substantial overall deficit to be associated with a primary surplus.) The IBC is an accounting constraint which states that the present discounted value of primary surpluses must be no less than the initial value of the debt. It is helpful to inspect a simple equation derived on the implausible assumptions that the rate of interest ( $r$ ) and the rate of growth ( $g$ ) are both constant, as is the ratio of the primary surplus to GDP ( $s$ ). Then if the initial ratio of debt to GDP is  $d$ , the IBC states:

$$s = (r - g)d \quad (1)$$

If the government wished to freeze the initial debt to GDP ratio and do so by a fiscal strategy which also maintained the primary surplus ratio constant, then this equation shows what that ratio has to be. The required surplus ratio is equal to the debt ratio multiplied by the excess of the interest rate over the growth rate.<sup>22</sup> It will have to be higher if initial debt is higher, if the interest rate is higher, or if the growth rate is lower. Use is sometimes made of the inter-temporal fiscal balance, the gap between the actual primary surplus (preferably cyclically adjusted) and that derived in equation (1).

One extension is to consider the case where the government wishes to shift the debt-income ratio over some horizon, adjusting the surplus ratio to achieve this. For example, suppose the debt to GDP ratio is believed to be too high. Then lowering it at 100x% per annum over the time interval to the horizon would require the surplus ratio to be raised over that interval to:

$$s = (r + x - g)d \quad (2)$$

---

<sup>19</sup> For a comprehensive review, see Easterly et al, 1994.

<sup>20</sup> See Adam and Bevan 2005.

<sup>21</sup> Kumhof and Laxton 2009, using a model where agents have finite horizons. This is in stark contrast to the results of the conventional analysis, which uses infinite horizon agents, some of whom are credit constrained.

<sup>22</sup> Note that if the rate of interest is below the growth rate (as it may be when a fast-growing country is offered concessional loans) maintenance of a constant debt ratio can be achieved with a primary *deficit*. The inference, drawn by some, that the government should increase its borrowing without limit in this case flies in the face of the fact that concessional finance is rationed in the present and will cease to be available to a growing economy at some date in the future.

This surplus ratio itself evolves over time, as the debt ratio falls. At the end of the period, the surplus ratio could then revert to the new stationary level given by equation (1), with the lower debt ratio that had then been achieved. Clearly, for any desired reduction in the debt ratio, a longer adjustment horizon would permit a lower value of  $x$ . In these circumstances, there is a trade off between the risks and costs of remaining excessively indebted for longer and the costs of having to run a larger surplus, with all that that implies for increased revenue effort and/or reduced public expenditure.

Precisely the same reasoning applies, in reverse, to the case where a government wishes to raise expenditure, for example on infrastructure, and is prepared to see the debt-GDP ratio rise by a given amount. The choice parameter  $x$  then takes a negative value over the planning horizon.

These insights carry over to the realistic case where constancy of the components is not imposed. Nor is this variability simply exogenous. When there is raised expenditure on infrastructure, there *should* be some impact on the economy's growth rate; and substantial changes in the primary balance may also induce changes in the cost of borrowing.<sup>23</sup> It is also possible to extend this simple analysis to the case where public debt is differentiated between domestic and external components, with different interest rates, and where the composition is expected to shift over time.<sup>24</sup>

The key point about these illustrations is that they lend themselves to a medium term time frame. Far too much discussion of the IBC, and of all types of sustainability exercise (of which, see below), relies on very long time horizons, such as twenty years. However, the message "if you continue behaving in this way for twenty years, you'll get into real trouble" is not very helpful when the interesting question might be, for example, whether the government can prudently reduce its infrastructure deficit by having a deficit-financed pulse of investment over the next five years.

### *Solvency and sustainability*

A government is solvent when the IBC is satisfied. Clearly, for any projections of the future pattern of growth and interest rates, there is an infinite variety of paths for expenditure and revenue that will satisfy the constraint. In a sense, the IBC simply underlines the commonplace notion that current irresponsibility will have to be paid for later. There may however be levels of indebtedness where a government chooses to default because the pain of servicing the debt is deemed greater than the opprobrium (and sanctions) following default. This might happen even if the government was *technically* solvent, in that it would have been feasible to raise revenues or lower spending sufficiently to achieve the necessary flow of primary surpluses.

---

<sup>23</sup> There are those, like Kraay 2007, who fear that optimistic errors in these exercises may get "locked in" and do real cumulative damage to policy.

<sup>24</sup> For a detailed analysis of these issues, see Bevan 2007.

Fiscal policy is *sustainable* when, if it were to continue along the same lines in future, the solvency condition would be satisfied.<sup>25</sup> How the “same lines” are to be derived is open; this may be from simple historical averaging, or from a formal econometric exercise. Debt sustainability analyses with accompanying ‘stress tests’ are now routine in the dialogue between governments and the international institutions.

However, the implication of the simple formulae given above carries over to these more realistic exercises. Whether the current fiscal stance implies sustainability depends on the *future* evolution of growth and interest rates. Similarly, whether a particular fiscal history led to trouble depended not only on the original fiscal stance, but on how growth and interest rates evolved. One analyst argues that what led to some low-income countries becoming HIPCs was not because they ran larger primary deficits than the non-HIPCs but because they suffered a severe growth slow-down while the non-HIPCs did not.<sup>26</sup>

### **1.5 Fiscal Space, Fiscal Flexibility, and Fiscal Rules**

When a country suffers from serious macroeconomic instability, the imperative is to stabilize it. The root cause of the problem is typically (but not always) an excessively lax fiscal stance, so a central component of stabilization usually involves reducing the fiscal deficit. There are obviously choices to be made over how rapidly to attempt this, and over the mixture of revenue and expenditure measures that are to be utilized. However, the room for manoeuvre is typically very limited.

Once stabilization has been achieved, a wider range of options becomes available. How wide, depends on history. Fiscal stabilization involves getting the flows under control, but the available options are circumscribed by the stocks inherited from the past. Paradoxically, countries whose past mismanagement induced very high inflation may have wider options than others, because the real value of their domestic debt has been radically reduced.

#### *Fiscal space*

In any event, it is possible to envisage a set of fiscal policy combinations which are consistent with continued stability.<sup>27</sup> Some of these may lie quite close to the limits of what is considered prudent, so define a sort of prudential boundary. Others may be quite conservative, in that they lie well within this boundary. If a government is pursuing a conservative approach in this sense, it can consider whether to adopt a more expansive strategy that will take it closer to the boundary. While these concepts are very familiar, they have been enshrined in recent years in the phrase “fiscal space”.<sup>28</sup>

The most popular definition is Peter Heller’s; he defines it as “room in a government’s budget that allows it to provide resources for a desired purpose without

---

<sup>25</sup> For an extended discussion of both theory and practice, see Burnside 2005. The World Bank now has a Fiscal Sustainability webpage.

<sup>26</sup> Easterly, 2001.

<sup>27</sup> Coupled, of course, with other components of macroeconomic policy.

<sup>28</sup> A cynic might argue that this is merely putting old wine into new bottles, but at least that is presumably safer than the proverbial converse.

jeopardizing the sustainability of its financial position or the stability of the economy”.<sup>29</sup> It is usually articulated in terms of the four dimensions of the “fiscal space diamond”. The first three dimensions of this diamond represent the scope for government to raise additional fiscal resources through (1) new revenue measures, (2) additional aid, or (3) new borrowing. The fourth dimension represents the scope to generate fiscal savings from improved allocative and technical efficiency of existing spending.<sup>30</sup> For any country, the *shape* of the diamond reflects the different degrees to which resources may be available from these four sources; its overall *size* reflects how large the resources are in aggregate.<sup>31</sup>

How much of any available fiscal space to take up obviously requires an exercise in judgement. In an uncertain world, there will always be risks in being less conservative, and whether it is worth incurring these depends on how high the expected pay off to using the incremental resources will be. There may be scope for “fiscal flexibility”, but a government may choose not to, or be prevented from, exercising it.

### *Fiscal flexibility*

It is an old charge that the IMF has taken a very hard line on fiscal flexibility. A popular adage was that, whatever a government’s deficit, the Fund asked them to halve it in the following year.<sup>32</sup> This may not have been a bad rule of thumb when many of the Fund’s clients were running excessively large deficits, but ceases to be sensible when stabilization has been achieved. In the latter case, the Fund’s performance has been patchy, but has recently become far more relaxed about appropriate (prudential) flexibility. What inflexibility remains is often a function of the government’s own fiscal authorities as much as of the Fund.

It is important to realize that a government is not typically a coherent entity, but a battleground for different interest groups. The fiscal profligacy of earlier years usually reflected weak central economic authorities being held hostage by powerful spending interests. Getting the fiscal situation under control required draconian measures, and these were often embedded in a “cash budget”. In its extreme form, this device worked on a monthly basis, restricting total spending in each month to the revenues received in the previous month, thus eliminating the government use of credit. With the very volatile and uncertain pattern of receipts in many low-income countries, this is a pretty dreadful system. It prevents the desirable smoothing of expenditures that the use of credit permits, and inflicts often random and severe cuts on vulnerable groups. However, it has proved very successful in re-establishing fiscal control, and the fiscal authorities are often loath to relinquish it. The argument is that it is much easier to hold the line at zero – no borrowing at all – than at some modest but positive number.

---

<sup>29</sup> Heller, 2005.

<sup>30</sup> See Development Committee of the World Bank and IMF, 2007. Improvements in allocative efficiency are achieved by shifts in the composition of spending; improvements in technical efficiency by cost reductions. This paper also makes extensive use of the fiscal space diamond in its many case studies.

<sup>31</sup> For a rather optimistic take on the extent of fiscal space, see Roy and Heuty 2009.

<sup>32</sup> Regressions of programme targets on achieved outcomes suggest that this was at one time a very accurate description of Fund programmes.

## *Fiscal rules*

The problem is how to float off an effective but inefficient system without losing overall control, and reverting to the bad old ways. One promising way forward is through the adoption of rather more flexible fiscal rules, and this is something that the IMF is keen to promote.<sup>33</sup> There is a rich variety of these rules. They include budget balance rules which can be specified for various definitions of the balance, sometimes on a cyclically adjusted basis; debt rules setting an explicit limit for the public debt to GDP ratio; expenditure rules setting limits on the level, growth or GDP ratios of total expenditure or subsets of this; and rules governing the share of revenue, or the level of some key tax rates.

There may also be some combination of these. For example, IMF WP/09/244 explores a possible arrangement for Tanzania, which would combine a primary medium term anchor – that the present value of gross public debt should be held below 40% of GDP – with three benchmarks.<sup>34</sup> These would be (i) a limit on net domestic financing in a single year to 2½% of GDP; (ii) a limit on annual nonconcessional external borrowing, also at 2½ % of GDP; and (iii) a limit on the annual change in the ratio of spending to GDP of 3% of GDP. These benchmarks are partly designed to prevent too rapid a build-up in liabilities, given the substantial gap between the current level of debt and the suggested bound, and partly to guard against other fiscal vulnerabilities, such as an inefficiently fast expansion of spending. While IMF working papers have no formal standing in terms of the IMF's policy position, this type of work is very welcome in setting out to explore how systems could be put in place that combined flexibility with control.<sup>35</sup>

### **1.6 Debt Sustainability**

The discussion of this issue will be fairly extended, because it is likely to be central to perceptions of what fiscal space is available in each country, and hence to act as a major restriction on the freedom to design fiscal policy.<sup>36</sup>

There has been an outpouring of work on it, from all types of participant in the development process, notably the World Bank and the International Monetary Fund. The overwhelming bulk of this work has focused on external debt. Some of it has been devoted to characterizing unsustainable debt in terms of 'debt distress', where countries are forced to run up significant arrears, seek rescheduling, or access non-concessional Fund lending. (Notice that this categorization excludes countries with excessive debt service burdens which avoid these three symptoms at the cost of savage cuts in domestic expenditures.) The probability of distress, so defined, is found to be a function of the level of the debt burden, the quality of policies and institutions, and shocks that affect GDP growth. The inference is then drawn that the financing mix made available to low-income countries should reflect these factors.

---

<sup>33</sup> For recent examples, see IMF 2009f and IMF WP/09/244. A very full discussion is provided in Kopits 2004.

<sup>34</sup> The NPV of Tanzania's public debt is currently around 25% of GDP.

<sup>35</sup> While the rules discussed in the text are fairly straightforward, they quickly become complicated when an optimizing framework is adopted. See Bi and Kumhof, 2009.

<sup>36</sup> As already noted, the cornerstone of the IMF working paper discussion of fiscal rules for Tanzania was the level of the debt to GDP ratio.

The Fund, jointly with the World Bank, (IMF and IDA 2004a, 2004b) proposed a new framework for the analysis of debt sustainability, based on ‘two broad pillars’. The first is to estimate indicative country-specific external debt-burden thresholds that depend on the quality of a country’s policies and institutions.<sup>37</sup> The second is to provide an analysis and interpretation of actual and projected debt-burden indicators under a baseline scenario and in the face of plausible shocks. This broad approach was subsequently adopted, though with rather more conservative thresholds than originally proposed (IMF and IDA 2005, 2006). Part of this increased conservatism reflected a natural caution on the part of the Boards of the two institutions to reduce the chances of an early return to debt distress. Part of it reflected a concern that, following the substantial additional debt relief under the Multilateral Debt Relief Initiative (MDRI), low-income countries might be vulnerable to new and not very concessional sources of finance – the so-called free rider problem. This danger was perceived to be the more acute since the reduced debt service obligations under the MDRI were sometimes partly offset by reduced flows of new concessional finance.

Even so, implementing this framework will almost certainly imply an increase in the concessionality of the financing made available to low-income countries, including an increase in the volume of grants. If donors and creditors fail to make these adjustments, the implication will be that recipient countries might have to refuse some aid, even when concessional, if it were not sufficiently concessional to permit them to stay within the calculated sustainability thresholds.

The relation between these country-specific thresholds and those used in the ongoing HIPC Initiative is somewhat awkward, since the latter are uniform across countries. The IFIs have argued that this is unproblematic, since the HIPC arrangements address existing debt overhangs by providing debt relief, while the new framework is intended to provide forward-looking guidance. However, this seems disingenuous; had a country-specific view been evolved in time, it would have been bizarre not to tailor debt relief to it. Since it was not, the effect of HIPC completion will be to locate graduating countries in very different positions relative to their country-specific thresholds. For most countries, these thresholds will be somewhat higher than those under HIPC, sparing the Bretton Woods Institutions the embarrassment of immediately requesting a further round of debt forgiveness for countries that have already benefited from the HIPC process. Despite these assorted caveats, some attempt to move to a more country-specific basis is a definite advance, reducing the very arbitrary nature of the previous arrangements. Another improvement is the acknowledgement that domestic debt must also be taken into account, though the new framework is far less concrete on how this integration is to be accomplished.

---

<sup>37</sup> These indicators take the form of ratios which it would be unwise to exceed; there are three indicators referring to the present value (PV) of the external debt stock, and two referring to external debt service. These indicators vary, depending on how a country is rated in terms of the World Bank’s Country Policy and Institutional Assessment (CPIA) Index. For a strong performer, for example, these threshold indicators are as follows. The stock thresholds are: PV of debt to be less than 50% of GDP, less than 200% of exports, and less than 300% of budget revenue. The flow thresholds are debt service to be less than 25% of exports and less than 35% of revenue.

While these developments definitely mark an advance, they still fall some way short of being fully satisfactory. Any forward-looking exercise is probabilistic and subject to being overtaken by events. However good the prior analysis and empirical work may be, attempting to determine a sustainable threshold involves an exercise of judgement. A conservative judgement risks unduly constraining the country's expenditure programme, or else requiring a degree of concessionality that cannot be delivered. Being less conservative raises the probability that debt distress will in fact occur. More specifically, whether a judgement is in fact conservative or not depends crucially on the accuracy of forward projections, most notably of growth rates, and both the Fund and the Bank have in the past tended to be very overoptimistic about these for low-income countries. The emphasis on perceived policy 'quality' may also prove very problematic in practice. This judgement is to be based on the World Bank's Country Policy and Institutional Assessment (CPIA), a blend of evidence-based and subjective components the details of which have until quite recently been jealously kept secret by the Bank, and whose merits have been hotly disputed. Finally, the proposals do not address the conflict of interest problem, where the Bank and Fund are acting as arbiters of a country's debt sustainability at the same time as being involved in lending to it. This problem has been reduced, but not eliminated, by the MDRI.

However, there is a more fundamental problem here; it is that debt sustainability is a very slippery concept, and may not be the appropriate one, especially for low-income countries. To place this proposition in context, consider briefly the idea of optimal debt, in the case where this is nonconcessional, and where neither repudiation nor forgiveness is an issue. Then in principle there will be some path for debt which will be optimal given international interest rates and domestic investment opportunities. It would not be worth incurring more debt than this, because the additional investment that could be financed would not have a sufficiently high return to finance the additional cost. Even so, it *would* be possible to incur more debt and still service it; it would be sustainable even if above the optimal level. If borrowing were raised sufficiently further (assuming willing and presumably short-sighted creditors), it would eventually become unsustainable, in the sense that a default would become inevitable. Between the two will be a range of debt levels which are sustainable though undesirable. A key difference needs to be noted between the concepts of optimality and sustainability, and the level of debt that can be carried under each. Optimality relates mostly to the relation between the domestic rate of return and the international interest rate; sustainability to the relation between the growth rate (of GDP, or possibly of exports) and this interest rate.

Now consider the consequences of starting with a given level of debt in these circumstances. A larger debt imposes larger debt service obligations, and reduces the productive expenditure the government can make in future, given its expected future tax revenues. What level of external debt would a government choose to inherit on acceding to power, if it had the choice? The answer, clearly, is none at all, or better still, an indefinitely large volume of foreign assets (negative debt).

How does this relate to the current and prospective circumstances of a low-income country which has been highly indebted, has received debt forgiveness under HIPC, and is eligible for concessional finance? Concessional finance has three characteristics which distinguish it from nonconcessional finance, apart from the obvious one of

being cheaper. First, access to it is rationed in the present. Second, access to it will be withdrawn at some point in the future. Hence it will not be possible to roll it over indefinitely. Third, the actual degree of concessionality is unclear, since there could be future debt forgiveness in certain circumstances. Furthermore, these characteristics are not independent. For example, a rapidly growing country would tend to lose access and be unlikely to obtain forgiveness in future compared to a country that remains in a low-income trap. All this makes the concessional case quite different from the conventional one. In a sense, concessional debt is a little like a common form of student loan – also made on concessional terms, definitely repayable if the recipient does well, with some form of forgiveness if the recipient does not. In each case, the financing instrument takes the form of debt in good times, and equity in bad times. The difference between the two is that the terms of forgiveness are clearly spelt out *ex ante* under student loan schemes, but are only determined probabilistically and *ex post* in the development context. This cannot be an efficient mechanism, either in terms of signalling, or in terms of incentives.

Three conclusions follow from this discussion. The first is that there is no clear way of assessing sustainable limits for external debt. What now seems easily sustainable might prove not to be so if *future* access to concessional finance were quickly withdrawn. What now seems unsustainable might prove unproblematic if there were further debt forgiveness in future.

Second, there may be a complete divorce between a country's capacity to absorb aid and its capacity to accept more concessional indebtedness according to any arbitrary rule concerning sustainability, such as the HIPC criteria, or even the more refined criteria now being implemented under the DSF.

Third, if the real purpose of aid is to assist development, then the criterion should be to allocate available aid resources between countries according to their need and capacity to use and absorb these resources. It does not seem helpful to interpose an additional constraint reflecting some alleged limit on debt sustainability as a subsidiary rationing mechanism. Of course, it would be possible in principle to continually vary the grant element in loans so that a level of resource transfer determined by donor willingness and the capacity of the recipient country could be kept consistent with a Net Present Value of debt that obeyed some HIPC-type rule, or country-specific variant of this. But this would be onerous to compute and virtually impossible to implement, as well as seeming to serve no useful purpose. A more rational alternative would be to utilize grants only for all current expenditure support, and restrict loans – even concessional ones – to public investments. Provided the investments were well chosen, sustainability of the associated incremental debt would not be an issue.<sup>38</sup>

Despite these arguments, it is clear that debt sustainability calculations are here to stay, and will play a central role in the discussion of fiscal options. Also, none of the preceding discussion is intended to deny that debt can indeed become excessive, and that some procedure is required for keeping that risk under review. It will however be important to be alert to the shortcomings of the conventional approach and not to allow any mechanical application of it to distort good judgement.

---

<sup>38</sup> However, see the discussion of different types of return below.

## *Domestic Financing*

Compared to the feverish attention accorded to external debt, domestic debt has until recently been a neglected topic, with poor data and less analysis. This has recently begun to change, but there are still no internationally agreed indicators or benchmarks for assessing domestic debt and total debt sustainability. However, there are a number of regional ratios and more informal views. Most relevant here, the IMF describes the domestic debt burden as significant when the ratio of nominal domestic debt stock to GDP ratio is above 15% - 20% and it recommends that IMF staff thoroughly review the risks in such cases when carrying out Debt Sustainability Analyses in low-income countries (IMF 2008b).<sup>39</sup> The empirical or analytical basis for this band is obscure, but taking its lower end as the beginning of a potentially problematic situation, countries might wish to stay below 15%.

Even if a country is already close to this value, there will still be scope for some domestic financing. The implication is that increases in domestic debt should on average be no more than in line with the growth in GDP. For example, if real GDP were growing at 7%, and inflation were running at 5% (common aspirations in both cases), then maintaining a 15% ratio would permit additional nominal debt equal to 1.8% of GDP to be issued.<sup>40</sup> Allowing perhaps an additional 0.5% - 0.7% of GDP for seigniorage, this means that a domestic deficit of between 2¼ % and 2½ % of GDP could be financed on an ongoing basis, in a non-inflationary way, with a stationary domestic debt ratio that did not breach the IMF's suggested limit.

Even when sustainability is not an issue, domestic financing of a fiscal deficit may still be problematic. One key concern is the impact it may have on domestic interest rates, and this has been the subject of a large empirical literature which has demonstrated very heterogeneous results.<sup>41</sup> As so often, the overwhelming bulk of the econometric evidence refers to advanced economies, and there appear to be no studies for any group of low-income countries. One study that is of particular interest here examines a 1970-2006 panel containing both (20) advanced and (41) emerging economies.<sup>42</sup> This study finds that there may indeed be a highly significant positive effect of budget deficits on interest rates, but only under certain conditions. For the sample as a whole the effect was for a 1 percentage point increase in the budget deficit to raise the domestic interest rate by a quarter of 1 percentage point. The size and significance of this effect depends on interaction terms. However, low financial depth is found to raise the effect to as much as 2 percentage points.<sup>43</sup>

Evidently, a rise on that scale would be very problematic. There is a balance to be struck between using deficit financing to reduce the adverse impact of demand

---

<sup>39</sup> It also stipulates that an annual increase of 5% - 7% in the PV/GDP ratio of public external or total debt should act as a 'caution flag' that countries are more likely to suffer debt distress.

<sup>40</sup>  $0.15 \times (112 - 100) = 1.8$

<sup>41</sup> For example, of about 60 studies of the USA, half found robustly positive effects of budget deficits on interest rates, while half did not. See Gale and Orszag, 2003.

<sup>42</sup> Aisen and Hauner, 2008. It does not seem too far-fetched to suppose that where there are systematic differences between advanced and emerging economies, there may often be a spectrum running from high- to low-income economies. Some speculative assessment of the position in these countries may then be inferred from a sort of qualitative extrapolation.

<sup>43</sup> The authors state that they find this "implausibly high", while noting that the explanation may lie in an exacerbated risk premium or crowding out of the private sector.

deficiency or to permit increased levels of public investment and the risk of a consequential and possibly substantial rise in the interest rate. Unfortunately, country-specific data are usually lacking, and striking this balance will typically require a difficult exercise in judgement.

## 1.7 Growth and Physical Capital Formation

A natural question when looking for the necessary underpinnings to achieve some target growth rate is to ask what investment rate is required.<sup>44</sup> A typical calculation starts from the “stylized fact” that – where data on capital stocks exist - capital output ratios often seem to be pretty constant. Then achieving some sustained (constant) rate of growth of GDP requires the capital stock to grow at the same rate, and this in turn requires a steady share of gross investment in GDP equal to the sum of this growth rate and the depreciation rate, all multiplied by the capital output ratio. For example, a target growth rate of 7%, coupled with a depreciation rate of 8% and a capital output ratio of 2 would require an investment share equal to 30% of GDP. On the other hand, if a country achieved a share of only 24%, growth would be constrained to 4%.

This type of calculation – which underpins the conventional wisdom – is quite seductive, since it seems both compelling and simple. It is often used to drive home the argument that a growth target more ambitious than the achieved record will require a substantial improvement in investment rates. However, its empirical foundations are very fragile. While there are well known instances of high growth being associated with a high investment share, these are relatively isolated, and, for large samples of countries, the correlation between growth and investment is typically very low.<sup>45</sup> Investment rates also tend to be more stable than growth rates. For example, the investment share of OECD countries averaged 23% both during the high growth period 1960-75 when their per capita growth averaged 3.4% per annum, and after the slowdown, during 1975-2000, when growth averaged only 1.8%. A similar invariance in the average investment share was true of non-OECD countries (a little over 13% in both periods), even though the slowdown was even more marked (2.5% falling to 0.9%).<sup>46</sup>

Nevertheless, most economists find it difficult not to be concerned when growth targets are ambitious but investment rates low. Of course, the issue is not simply one of quantity, but also of composition and quality. The government has a double role to play here, which involves a balancing act. First, it must minimize the obstacles to private investment. This involves providing an “enabling environment”, with a supportive legal and regulatory regime, and not too draconian a tax regime. But it also requires fiscal policy to be designed so that the government does not encroach on credit that could have been utilized for private investment. Second, the government

---

<sup>44</sup> Similar issues, and a similar lack of evidence, apply also to human capital. The public sector contribution to this type of capital formation tends to be via the current expenditure components of the budget, notably on education and health. Because of donor predilections to support social sector spending, this type of capital formation has enjoyed a high and often ring-fenced share of budget resources, arguably at the expense of infrastructure investment, and the associated operations and maintenance expenditure. Hence the focus here is on physical capital. Herrera 2007 looks at the relation between public expenditure more generally and growth.

<sup>45</sup> The correlation between investment and income *levels*, by contrast, is much higher.

<sup>46</sup> Estimates in Klenow and Rodriguez-Clare 2005.

must ensure adequate investment in public infrastructure to complement the private investment.

### *Public infrastructure*

Very substantial infrastructure deficits have emerged in many low-income countries, and are particularly severe in Sub-Saharan Africa, despite the emphasis laid on the importance of infrastructure in the pronouncements of policy makers. With the partial exception of telecommunications, this concern was not shared until relatively recently either by donors or in the academic literature. During the last decade, this position has changed by steps, with water and sanitation becoming a focus of the MDGs, then increased attention being paid to energy, and belatedly, transport.<sup>47</sup> While the existence of a deficit has been very clear for many years, there has been a dearth of detailed information about it. In particular, an accurate inventory of existing assets, and estimates of the quantitative size of the deficit, of the costs to growth it imposes, and of the financial requirements to close it have all been lacking.

In recent years there has been a major response to these difficulties in the Africa Infrastructure Country Diagnostic (AICD), which is implemented by the World Bank on behalf of the African Union, NEPAD, the ADB, and others, including major infrastructure donors. Its first phase has focused on 24 countries. Its principal findings, if qualitatively unsurprising, are nonetheless quantitatively striking. On virtually every measure, SSA countries lag behind similar countries in other parts of the world. In some cases, the gap is startling – generation capacity is only 11% as high, paved road density only 23% as high. Only in respect of ICT is the gap relatively narrow. Another finding is that deficient infrastructure emerges as a major constraint on doing business, depressing firm productivity by around 40% (Escribano et al 2008). Inadequacies in power generation and in port functioning and associated customs clearance are particularly damaging.

The cost of catching up is estimated at US\$38 billion of investment per year, with a further US\$37 billion required for operations and maintenance, i.e. an overall cost of US\$75 billion.<sup>48</sup> This is about twice the estimates in the Commission for Africa report. Across the continent, it translates into 12% of GDP; however, the burden is very unevenly spread – less than 10% for middle-income countries and oil exporters, an implausible 20% for the non-fragile low-income countries, and an inconceivable 40% for fragile states.<sup>49</sup> These costs are also very unevenly distributed by sectors. Power accounts for 56% of the total, and transport for 27%, with the remaining sectors accounting for only 17% together.

Financing options include (i) direct private investment and public-private partnerships, (ii) expenditure reprioritization and efficiency, (iii) domestic revenue mobilization, (iv) external grants and concessional financing, and (v) borrowing on domestic or international credit markets. Recently, governments such as Ghana and Kenya have had recourse to sovereign bond issues, but world events have at least temporarily sidelined this possibility.

---

<sup>47</sup> Estache, 2006

<sup>48</sup> Foster, 2008. A more recent estimate from AICD is higher, at US\$93 billion pa. Foster and Briceno-Garmedia 2009.

<sup>49</sup> Foster, 2008

Current infrastructure spending in Africa is higher than previously thought, at US\$35 billion from taxpayers and users, plus US\$13 billion from various external sources (ODA, Non-OECD financiers, and PPI in roughly equal amounts).<sup>50</sup> It is important to note that, while PPI has been very beneficial in the ICT sector, experience in other infrastructure sectors has been more problematic, and in some (such as roads) its relevance may in any case be limited.<sup>51</sup> Public finance remains the dominant source of finance for water, energy, and transport, with investment largely tax-financed while operations and maintenance expenditure is largely financed from user charges. Recent levels of public finance are substantial relative to GDP in the low-income countries, running at around 6-8% over 2001-2005. Another finding is that countries only manage to execute a fraction of the budget allocated to infrastructure (typically only about two-thirds). Finally, Africa's infrastructure services are twice as expensive as elsewhere, reflecting both diseconomies of small scale in production and a lack of competition.

### *Infrastructure and growth*

One key issue is the extent to which poor infrastructure has inhibited growth, and, by extension, how much improvements in the stock may lead to accelerated growth. There is a very extensive literature that attempts to address this daunting task, recently surveyed by Straub 2008. The part of this survey devoted to empirical work reviews 140 specifications utilized in 64 papers with 63% of the specifications yielding a positive and significant relation between infrastructure and growth. Much early work used public capital as a rather poor proxy for infrastructure, with more recent work making increased use of physical indicators.<sup>52</sup> This later work is more likely to detect a positive relationship (over 70% of cases for electricity and for telecoms, over 80% for roads). A positive relationship is also somewhat more likely to be detected in developing countries. This is what we would expect, given the greater likelihood of relatively inadequate infrastructure in these countries.

A related issue, on which this literature throws little light, concerns how much spending should be allocated to infrastructure at different stages of development.<sup>53</sup> What is clear is that different countries exhibit radically different patterns of behaviour. In recent years, major Latin American countries have invested less than 3% of GDP on infrastructure (Fay and Morrison, 2007), while China and Vietnam have been investing around 10% (Straub et al, 2007).

A recent paper that has attracted much attention in the African context is Calderon 2008, which applies panel data econometrics to a sample of 136 countries over 1960-2005. It looks at the impact on per capita growth of faster accumulation of infrastructure stocks and of enhancement in the quality of infrastructure services for

---

<sup>50</sup> PPI stands for "private participation in infrastructure", the AICD's portmanteau term for the many different modalities through which this participation takes place.

<sup>51</sup> Foster, 2008.

<sup>52</sup> The reason for distrusting public investment data is that, particularly in developing countries, the official costs of investments are often disconnected from their effective value. On the other hand, there are also problems with physical indicators. They also may be poor proxies of infrastructure services, missing the crucial quality dimension. In both cases, this will tend to make a positive relation harder to detect.

<sup>53</sup> Nor is the theoretical literature much help.

39 African countries in three key sectors: telecommunications, electricity, and roads. The findings, which are subject to the usual caveats attaching to this type of exercise, are nonetheless pretty striking. Across Africa, the author finds that infrastructure contributed 99 basis points to per capita economic growth over the period 1990 to 2005, compared with only 68 basis points for other structural policies.<sup>54</sup> That contribution is almost entirely attributable to advances in the penetration of telecommunication services. The deterioration in the quantity and quality of power services over the same period has significantly retarded growth. Calderon's simulations suggest that if the average African country were to catch up with the infrastructure situation in Mauritius, its per capita growth would increase by over 2 percentage points.<sup>55</sup>

However, it is evident that what is required is not only a massive increase in infrastructure provision, but a radical improvement in the associated logistical capabilities more generally. The scale of this latter challenge cannot be overestimated.

#### *Consistent treatment of public investments with different types of pay-off*

One of the persistent features of recent discussions<sup>56</sup> has been the idea that excessive concern with financial returns may militate against investments that are socially valuable, even though their returns are "developmental" rather than financial. It is clearly part of the proper process of government to undertake the types of investment that have a high social pay-off but will not be undertaken by private sector agents because they would be unable to appropriate these returns. The question is then what criteria should be used in the public sector to select between competing projects, given that, if they do not pay for themselves, they will require cross-subsidisation from other public activities.

Attention is restricted here to investments that are public for some adequate reason, for example because there is a divergence between the social returns they generate and the returns that can be appropriated directly by the investor. If there is a good match between these two types of return, then in general there is no need for public sector involvement (except of a regulatory kind). Alternatively, if the public sector does make investments of this type, they pose no particular problems of appraisal or financing<sup>57</sup>.

Loosely speaking, we might consider the pay-offs to other public projects to be of three types, possibly in combination. Specifically, they may produce different types of flow benefits, and the benefit-cost criteria for deciding whether to undertake them need to be varied to take this into account. The first type has a benefit flow which is

---

<sup>54</sup> "Structural policies" are taken to include policies directed at human capital, financial deepening, governance, and institutional quality.

<sup>55</sup> However, it is difficult to assess quite what is happening in the Calderon paper, so the numbers quoted here and elsewhere need to be taken with care. For example, the enhanced growth rate associated with achieving Mauritius' levels of infrastructure does not seem to be a function of time. It is *being* at that level that generates the increased growth, rather than *achieving* that level over some time horizon.

<sup>56</sup> See for example, Bradford, 2005, Roy et al, 2006.

<sup>57</sup> Of course it remains necessary to have an appraisal and design procedure that is realistic and well-informed, as well as a capacity to implement the project as designed. This may be reason enough to prefer that projects of this type be left to the private sector.

all appropriable by government, for example via user charges. To the extent that this appropriability property also held for a private investor, there is no necessity for the public sector to undertake the project, which could be left to the private sector, but it provides a useful benchmark. The second type has a benefit flow that accrues entirely as an addition to private cash income. None of this is directly appropriable as a project return to government. However, the addition to private income is taxable, so does generate some additional revenue. The third type has a benefit flow which takes a purely non-monetary form, and so generates no direct tax revenue.

It turns out that the key distinction is between projects whose returns are fully appropriable by government and the rest, rather than between those that are money income generating and those that are not.<sup>58</sup> Hence, for the types of project that should be the government's main concern, the distinction between those with financial as oppose to developmental returns is relatively second order.

### 1.8 The Relative Size of Government over Time

Much inter-temporal analysis assumes that the ratios to GDP of certain key fiscal magnitudes (expenditure, revenue, grants, loans, primary surplus) are stationary. There are several reasons why this may be a poor assumption.

1. In practice the government expenditure ratio tends to rise with rising per capita income (Wagner's law).<sup>59</sup> This may be because the demand for public goods is income elastic, because the production of public goods and services is characterized by a lower rate of technical advance than that for the production of private goods and services<sup>60</sup>, or because the deadweight burden of tax (and hence the marginal cost of public funds) falls as income rises.<sup>61</sup> These all suggest that it might be prudent to plan for some expansion in spending over time, on a highly country-specific basis.
2. "Inherited" debt may be at an inappropriate level so that, in the absence of debt forgiveness, fiscal policy must be used to adjust it; and similarly for initial physical (public) infrastructure. The fiscal consequences are quite different, involving a temporary contraction of spending in the first case, and a temporary expansion in the second.
3. The future profile of concessional loans and grants is also likely to have an uneven shape - possibly rising for a time, then falling. The prospect, in some countries, of aid "scaling-up" provides a rather different rationale for a rising spending share. It also implies *either* a subsequent fall, when the aid to GDP ratio tapers off again, *or* a countervailing increase in domestic revenue effort.

The other implication, if a rising expenditure share is desirable, is for the government's debt profile. For simplicity, suppose initially that there is no grant aid and that government debt is zero at the start of the planning period. Then, by the inter-

---

<sup>58</sup> A detailed analysis is provided in Bevan 2007 and a summary of this can be found in Herrera 2007.

<sup>59</sup> Earlier evidence for this effect in developing countries was rather mixed. Recent studies, however, have tended to support it. See, for example, Akitoby et al, 2006.

<sup>60</sup> For recent empirical work supporting this hypothesis, see Nordhaus, 2006.

<sup>61</sup> See Gordon and Li 2009 for a particularly stark view on the high costs of taxation in countries with a large informal sector.

temporal budget constraint, the present value of tax revenues<sup>62</sup> must equal the present value of expenditures. Theory and evidence support the popular supposition that the deadweight burden of taxation rises with the tax rate. Provided this deadweight burden is stationary at a given tax share, the present value deadweight loss of the tax system is minimized by setting a constant average tax rate, with a constant share of revenue in GDP. Hence expenditure starts out below revenue, but overtakes it after a time. The government initially builds up a net asset position and subsequently runs this down.

This picture would be unaffected by the presence of grant aid, provided this was a constant share of GDP. If, instead, the aid was front loaded, the optimal response would be for government to build up its net asset position even faster, using part of the aid to do so. This might be an awkward policy to defend to donors<sup>63</sup>. What if we adopt the more realistic assumption that the government's initial debt is positive? Then the strategy would be to run this down for a time, and subsequently build it back up.

One possible counter to the presumption of a rising expenditure share would be if the initial position was characterized by a seriously dilapidated public infrastructure, as is commonly the case in most low-income countries. Since this type of infrastructure deficit may be a major constraint to growth, it will be a high priority to rectify it. This implies a degree, possibly a major degree, of front-loading of expenditure. It would be quite possible for these two sets of considerations to yield a u-shaped share of public expenditure over time.

In the more plausible case where the deadweight burden of taxes falls as per capita income rises, the tax schedule that minimizes the present value deadweight burden in a growing economy is one where the tax share rises steadily over time.<sup>64</sup> How fast it should rise will depend on the relative magnitudes of the two effects, i.e., the (negative) gradient of the marginal cost of funds with respect to per capita income as opposed to its (positive) gradient with respect to the average tax rate.

If we revert to the case where it is desired to maintain a constant share of public expenditure in GDP, this implies a reversal of the previous analysis. Initial revenue starts out low relative to expenditure, but eventually overtakes it. Debt is accumulated during the first phase, and then repaid subsequently. If grant aid is available and is front-loaded, the effect will be to moderate this early build up of debt, a less difficult strategy to justify to a sceptical donor.

This discussion of a changing tax share over time revolves around one pair of indirect relations; that between deadweight burden and per capita income, and that between per capita income and time<sup>65</sup>. There is a parallel argument involving another such pair, that between deadweight burden and demographic structure, and that between demographic structure and time. The empirical evidence cited earlier has long found

---

<sup>62</sup> For simplicity, non-tax revenues are ignored.

<sup>63</sup> Of course, something very similar to this has happened in the past when governments failed to spend programme aid flows at the time of disbursement, but that was primarily a short-run matter rather than a long-run one as here. See Berg et al, 2005.

<sup>64</sup> That is, where the growth is at least partly in per capita incomes.

<sup>65</sup> It is the "reduced form" of these structural relations.

that low tax effort is associated with a high ratio of dependents to the economically active in a population, and more recent studies have highlighted a similar association with high population growth rates. Countries that have plausible expectations of a demographic transition from very high to much reduced population growth rates might decide to defer the attempt to raise the revenue share until the transition has taken place. This would have much the same timing implications as the previous case.

If these two features – the desirability of a rising expenditure share and also of a rising tax share - are combined, their implications for debt tend to offset each other, and the net effect is ambiguous. Nor is this simply a matter of the cumulative net effect. The essence of both features is that they imply changed relative valuations over time; there is no reason to suppose that these changes occur uniformly. Hence, for example, it would be possible for both features to be present, for the tax feature to be dominant cumulatively, but for this to be deferred. In the short run, the expenditure feature would dominate, but would eventually give way to the tax feature.

While all this may seem rather abstract, it has a serious implication. In the absence of these concerns, a judgment would still have to be made as to whether debt was at a sustainable level, was too high, or could be prudently increased. The considerations discussed here may have a material effect in changing this judgment. A level of debt that would seem unproblematic if all the major spending ratios were stationary might seem imprudent if there were sound reasons for delaying revenue increases relative to spending levels. Also, the appropriate target for debt levels would be both country and time specific.

The conclusion of this discussion is that analyzing fiscal choices within a sort of “maintained hypothesis” of stationarity is likely to be very unhelpful. For each country, a view needs to be taken as to the plausible and/or desirable medium term evolution of the main fiscal ratios, so that short-term policies, such as responses to shocks, can be set within an appropriate medium term dynamic.

## **1.9 Summary**

Fiscal policy includes actions which affect the balance between government revenue and expenditure, i.e. the budget surplus or deficit, the evolution of this over time, and hence the evolution of its stock counterpart – government debt. Attention must also be paid both to the scale of government activities, and to their composition. The key point is that fiscal policy design must be forward looking, but rooted in the country’s “initial conditions”; history matters because it is the major determinant of these initial conditions.

Many low-income country governments have been successful in stabilizing their economies in recent years, but this has not always led to the anticipated acceleration in growth; this may reflect private sector scepticism, poor fiscal design, or the existence of other constraints to growth. Whether or not accelerated growth has ensued, countries have often found it difficult to maintain fiscal discipline even when they have once achieved it.

Fiscal policy must respect the inter-temporal budget constraint; but it is important not to get hung up on a long or indefinite horizon; practical design requires a medium –

term perspective. Macroeconomic stabilization and fiscal control, coupled with debt relief, have made it possible to explore more flexible fiscal options, or “fiscal space”. However, control was often achieved by the draconian short-term device of a cash budget. Fiscal authorities are often reluctant to risk a loss of control by straying too far from this device. More complex fiscal rules may permit governments to commit to prudent policies in a transparent way, without sacrificing flexibility.

Debt sustainability analyses have become universal in the low-income context, play a central role in discussions of fiscal options, and bounds on debt may be incorporated in fiscal rules. While these analyses are definitely here to stay, and indeed have a useful role to play, the underlying concepts are quite slippery in the context of concessionality. The conventional approach has shortcomings, and it is important to be alert to these and not to allow any mechanical application of it to distort good judgement.

Low-income countries typically have very substantial infrastructure deficits, which it is vital to rectify. Successful investment should raise the achievable growth rate, which is not only desirable in itself, but would also feed back in a benign way into the debt sustainability issue. Finally, the relative size of government is likely to change as the economy grows: fiscal design must take this into account.

## **PART 2: Fiscal Responses**

### **2.1 Introduction**

Economies deviate from the path of potential output for a variety of reasons, and these deviations are wasteful, whether they involve unemployed or underutilized resources on the one hand, or overheating and inflationary pressures on the other. Governments have traditionally employed macroeconomic policy instruments – monetary policy, exchange rate policy, and fiscal policy – in an attempt to smooth the path of the economy and reduce the size of these deviations.<sup>66</sup> Quite what policy mix is adopted depends partly on the perceived nature of the shock, and partly on current conventional wisdom about policy efficacy. Until the 1970s, discretionary fiscal policy was seen as the central element in these efforts, but it then fell into disrepute. There were a number of reasons for this. It was variously believed to impart an inflationary bias to the system; to have perverse effects, exacerbating rather than damping the deviations; to interfere with rational private responses, making these less efficient; to have deleterious long-term, cumulative consequences; or to be ineffective. Hence the role of fiscal policy became muted, relying largely on non-discretionary features, or “built-in stabilizers”.

This changed radically during the current crisis, with governments in the advanced economies each engineering a very substantial discretionary fiscal stimulus. It has already been noted that the origins of the crisis, and its likely evolution, including its response to these policy interventions, all lie outside the low-income countries. They are nevertheless impacted by the crisis. The question here is whether they should also engage in providing some discretionary fiscal stimulus, and if so, how. Section 2.2 reviews evidence as to whether fiscal policy has been helpfully countercyclical in the past, finding that it typically has not. Section 2.3 examines the possible forms and effects of a fiscal stimulus, and section 2.4 looks at constraints on short term expenditure changes. Section 2.5 looks briefly at what sorts of actions the governments of low-income countries have taken to date. Section 2.6 concludes.

### **2.2 Pro- and Countercyclical Fiscal Policy**

It is useful briefly to review what is known about the cyclical behaviour of fiscal policy in developing countries more generally.<sup>67</sup> There is a large empirical literature that finds fiscal policy in these countries to be procyclical, in contrast to high-income countries where it is usually found to be countercyclical.<sup>68</sup> There is much less work specific to low-income countries, but one paper addresses experience in 37 Sub-

---

<sup>66</sup> In current circumstances, with an adverse shock, the deviation from potential output is the “output gap”.

<sup>67</sup> The term “cycle” reflects long-standing preoccupations with the business cycle in advanced economies, and appears to presuppose some regularity in deviations above and below the trend of potential output. The experience of low-income countries typically does not exhibit such regularity, and reflects more random patterns of shocks. While the term may therefore be less appropriate, the underlying question as to whether policy amplifies or dampens the shocks remains of central importance.

<sup>68</sup> For a recent example, see Ilzetki and Vegh 2008, who take more care than most to control for endogeneity. They also find, having done so, that government consumption has a significant expansionary effect on output, implying that fiscal policy exacerbates the cycle.

Saharan countries since 1960.<sup>69</sup> It finds that government consumption is procyclical in 36 of the 37, highly so in 18 of them (in the sense that government spending responds more than proportionately to output fluctuations). It also finds that procyclicality is more marked amongst countries that are more reliant on aid inflows. The implication is that, far from it being straightforward to implement a countercyclical response, the authorities might have their work cut out to reduce an innate tendency in the other direction.

Conventional theory, whether neo-classical or Keynesian, suggests that fiscal policy should normally be designed to be countercyclical. In high-income countries, the existence of so-called built-in or automatic stabilizers permits this without recourse to potentially risky discretionary interventions.<sup>70</sup> Examples of automatic stabilizers include progressivity in the personal tax system and unemployment benefits. Of course, in the current unusual crisis, these countries have also opted for a massive discretionary stimulus. The structure of revenues and expenditures in low-income countries does not yield much in the way of automatic stabilizers, but the problem is not to explain the lack of countercyclicality, rather the prevalence of pro-cyclicality.

There are three main types of explanation. The first type reflects the practical difficulty of identifying the extent and duration of a shock, designing and implementing a discretionary response, coupled with the time required for the intervention to generate real effects. The latter depends primarily on private sector behaviour. The sum of these decision, implementation and behavioural lags can mean that by the time it materializes, the policy impact is in the wrong direction, because the shock has already reversed itself. Even absent lags, it is also possible that the private behavioural response will not be in the desired direction.<sup>71</sup> And even when the direction and timing of response is broadly right in the first instance, there may be issues of how to judge and how to implement its reduction or removal as the shock unwinds.

The second type of explanation, specific to recessions, relates to financial constraints and limited access to capital markets by developing country governments. If domestic financial markets are thin, especially if domestic government debt is substantial, there may be little opportunity for domestic financing of an increased deficit. Concessional external borrowing is always rationed, and the scope for increasing it when faced with a negative shock is not within the discretion of the recipient government, though of course development partners may choose to respond by increasing what is offered. External borrowing on commercial terms may either be prohibited by cost considerations or by the terms on which concessional finance is made available.

The third type of explanation invokes political economy considerations. There are many different arguments, but the most important here stresses the political difficulty of setting aside tax revenues in good times, as self insurance, when the country has both many needy sectors and a number of interest groups which, though not needy,

---

<sup>69</sup> Thornton 2008.

<sup>70</sup> These are sometimes a by-product of other features of the fiscal structure, sometimes themselves a consequence of deliberate design.

<sup>71</sup> For example, there has been much discussion of so-called expansionary contractions in OECD countries, where fiscal retrenchment so improves private agents' expectations of future burdens that private spending expands.

are powerful. It is therefore difficult to run a budget surplus or reduced deficit during a positive shock, even when policy makers as well as technical staff see the merit of doing so. An important related feature is the existence of a differential ratchet effect as the government budget constraint shifts between soft and hard. Current expenditure can be raised quickly (increased recruitment, wage rises, higher spending on consumables), but is correspondingly difficult to reverse. Capital expenditure is difficult to increase quickly, unless there is a well-developed project pipeline, but relatively easy to reduce (projects are aborted or stalled). Hence cyclicalities are likely to induce either or both upward shifts in the level of spending and compositional shifts in favour of current spending.

All three explanations contribute to our understanding of the prevalence of procyclicality, and all three have some relevance to the feasibility and desirability of a government attempting some fiscal stimulus in current circumstances. This is considered further in the next two sections.

### 2.3 Fiscal Stimulus

The global crisis has induced much work on what policy responses are appropriate. Of particular relevance is the IMF Staff Position Note of May 2009, which focuses on Sub-Saharan Africa.<sup>72</sup> It notes that

- growth will weaken markedly as export prices and volumes, remittances, tourism, and capital flows decline
- the fiscal effects are likely to be large and to operate mainly via revenue losses

Countries with “output gaps and sustainable debt and financing options have scope to implement expansionary policies ... . The main focus of fiscal stimulus should be on the expenditure side, particularly infrastructure and social spending ..”.<sup>73</sup> Other countries will simply have to adjust, though additional donor support would reduce the extent of the adjustment. For both groups, the importance of expanded social safety nets is stressed.

In brief, the argument is “finance if you can, adjust if you must”. The basic analysis seems sound. For countries viewed by the IMF as having “scope to implement expansionary policies”, there are two types of expansionary impulse to consider, the operation of automatic stabilizers, and the impact of discretionary policy.

#### *Automatic stabilizers*

IMF (2009b)) has a stab at estimating the size of automatic stabilizers for non-oil exporting SSA countries. It uses a budgetary elasticity with respect to the output gap (the gap between actual and potential output) of 0.2, and the April 2009 World Economic Outlook growth projections to estimate the average output gap at around 2 percentage points. This would imply that automatic stabilizers in these countries would worsen the fiscal balance by 0.4% of GDP in 2009 (compared to three times that in the G-20 countries). However, the basis for this estimate is very shaky. While there are direct estimates of the underlying elasticities for a number of advanced

---

<sup>72</sup> IMF 2009b.

<sup>73</sup> Executive Summary, IMF 2009b. See also Fedelino et al, 2009.

countries, this is not the case here. Instead, it is simply *assumed* that the revenue elasticity with respect to output is 1 (revenue is assumed proportional to actual output) and that the comparable expenditure elasticity is 0 (expenditure is invariant, whatever the gap). Assuming also that there is no significant change in government size, year-on-year, this implies that the contribution of automatic stabilizers is the product of the share of government spending in GDP and the change in the output gap.<sup>74</sup> Hence a spending share of 20%, coupled with an increase in the gap of 2 percentage points would indeed yield this average estimate of 0.4.

However, the methodology effectively presumes the result. If revenue is proportional to output, any automatic stabilization must necessarily operate via expenditure. If expenditure is also proportional to output, then so would be the fiscal deficit, and there would be no automatic stabilization. Assuming a zero elasticity of expenditure is an intermediate position. Expenditures are ring fenced against pressures arising from falling revenues and a rising deficit; however, there are no components of expenditure – such as payments from formulaic safety nets - which automatically rise. Alternatively, the zero elasticity assumption could imply that these two forces roughly offset each other. Demonstrating whether or not it is appropriate to make these elasticity assumptions for any specific country would require detailed analysis of the behaviour of the budget and its main components. On balance, it seems more likely that downward pressures on expenditure would predominate in low-income countries, so the estimate of 0.4 might be considered an upper bound.

### *Discretionary policy*

There is no consensus as to the form a discretionary expansionary policy should take, the size and duration of its likely impact, and the extent to which the impact depends on the form of policy. There has been much theorizing as well as a large number of empirical studies of these issues.<sup>75</sup> However, most of this work relates to high-income economies, much less to emerging economies, and very little to low-income countries. This uneven coverage is primarily a reflection of differential data quality and it is unlikely to be corrected even within an extended horizon. Hence reliable inferences for low-income countries cannot be made. For what it is worth, the evidence suggests that impacts are potentially larger and longer lasting in high-income countries.

For example, one paper enables estimates to be made of fiscal multipliers (for an increase in government current expenditure) one, two and three years after the stimulus.<sup>76</sup> For a sample of high-income countries, these multipliers were 0.7, 0.9, and 0.8 respectively. The cumulative multiplier after two years was 1.5. For a sample of developing countries, the corresponding multipliers were 0.4, 0.1, and -0.1. The cumulative multiplier after two years was 0.5, or one third of that in the high-income sample. The implication is that, even if developing countries are able to get the direction of discretionary policy right, the associated multipliers are rather small and short-lived, going into reverse in the medium term.

---

<sup>74</sup> A handy summary of this type of calculation is provided in IMF 2009a, pages 51-52.

<sup>75</sup> For a useful summary, see IMF 2008a.

<sup>76</sup> The paper is Ilzetski and Vegh, 2008. The multiplier calculations were derived from their results in IMF 2009c.

Other evidence for high-income countries is that fiscal multipliers vary according to the size of country, the type of fiscal stimulus, whether monetary policy is accommodating, and a host of other circumstances. For example, IMF 2009c, after surveying a battery of estimates, offers “a rule of thumb”, given accommodative monetary policy, of spending multipliers at 1-1.5 for large countries, 0.5-1 for medium sized countries, and 0.5 or less for small open countries. They suggest that multipliers for revenue and transfers should be about half these values, and that for capital spending somewhat higher ones would be appropriate.<sup>77</sup> They also warn that negative multipliers are possible, especially if the fiscal stimulus is perceived to weaken fiscal sustainability.

There are two other important distinctions between automatic stabilizers and discretionary policy. The first is that automatic stabilizers kick in very quickly when an adverse shock triggers them, while discretionary policy operates with a much more substantial lag, which may indeed, as noted, render it procyclical. The second is that the automatic stabilizers can be relied on to reverse themselves when the adverse shock dissipates, while there is no such guarantee in the discretionary case. In practice, the stimulus measures, though initially flagged as temporary, have frequently been permanent. This has also been true in the advanced economies, despite the presumption of superior fiscal governance in these countries.<sup>78</sup>

The general conclusion of this summary discussion is rather daunting; it runs as follows. Automatic stabilizers are likely to offer only a modest stimulus. Further, discretionary policy may have a delayed, limited and temporary effect, with no guarantee that the overall impact will be of the right sign, and runs the risk of becoming embedded. In other words, the beneficial impact on the economy may be short-lived, but the fiscal changes that delivered the original stimulus may not. One thing that does appear to be very commonly agreed is that what scope there may be for a temporary fiscal stimulus in low-income countries should be implemented on the expenditure side, not the revenue side. This consensus reflects perceptions of longer lead times, less reversibility, poorer targeting, and lower multipliers for tax reductions.

There is another major difficulty in designing a fiscal stimulus in face of what is primarily a reduction in export demand. Ideally, such a stimulus would have some appropriate mixture of two properties. To the extent that the fall in export demand was mediated by price effects, the issue would not be idle resources but reduced incomes. The desirable response would then involve income support of some kind to individuals who remain economically active. In low-income countries, the mechanism for delivering this is unclear. Alternatively, the fall in export demand may present itself as a reduction in volume, so that it does indeed create idle resources. The problem then is how to focus the stimulus so that the temporarily unemployed resources find alternative temporary employment. Simply pumping more aggregate demand into the economy will not serve – it could induce overheating while still not addressing the problems faced by the victims of the change.

---

<sup>77</sup> The revenue multiplier refers to the case where cuts in taxes increase private disposable incomes.

<sup>78</sup> See for example Box 5.5 in IMF 2008 for a discussion of tax cuts in the USA where only 20% were intended to be permanent, but 40% became so.

All this calls for caution. However, it should be noted that there is a much more gung ho tradition than the one outlined here. For example, Weeks, 2009a and 2009b advocates aggressive countercyclical fiscal policy through increased current spending, monetization of the resulting deficit, and controlled depreciation of the currency to prevent any widening of the trade deficit while mitigating the inflationary impact.<sup>79</sup> We examine the prospects of some discretionary expenditure increases below, considering both current and capital expenditures.

## 2.4 Constraints on Short-Term Expenditure Choices

As previously argued, any short-term fiscal stimulus is better applied on the expenditure side than the revenue side of the budget. The first question is what are the relative merits of attempting a reversible expenditure increase within capital and current spending categories respectively? The second question, reflecting the general concern to provide some social protection against adverse shocks, is how much of any current expenditure component should take the form of enhanced social protection? The general difficulties of reversibility and of targeting have already been discussed and that will not be repeated here.

### *Capital expenditures*

One seductive attraction of using capital expenditure to deliver a temporary fiscal impulse during a recession is the idea that resources that have been made idle can be utilized to increase future incomes. Short-term harm is translated into long-term benefit.<sup>80</sup> There are two difficulties with this picture. The first is that it may be impossible or extremely inefficient to bring capital expenditures forward from their original timeline. It requires large lead times, and ferocious coordination if it is to be successfully implemented. It may be even more costly to terminate early. The second difficulty is that it may be very difficult to redirect resources made idle in the recession to support increased investment expenditures, because of considerations of either skill or geography. Idle providers of tourist services in the north of the country may not be easily reassigned to power station construction in the south. Hence capital expenditure does not readily lend itself as a countercyclical tool.

There are two main exceptions to this. The first is where there exists a fully designed and justified set of relatively independent projects, which have been queued because of limited financial resources, but which are otherwise ready to go. In many countries, the obvious sector with these characteristics is the road sector; it also has the advantage of being geographically diffuse. What is more, completing a road project early simply means that that road is improved earlier than originally planned – the activity does not have to be “unwound”.

---

<sup>79</sup> In his study of Sierra Leone, Weeks (2009a) advocates a fiscal expansion equal to 1.9% of GDP, in the form of labour intensive capital works. This would involve increasing two existing employment generation programmes, with an additional 80,000 full-time jobs.

<sup>80</sup> There is also an appealing symmetry. Capital expenditures are often most severely cut when fiscal tightening is needed, because it is easy to do so; hence favouring them during an expansion restores the balance.

The second exception, which may overlap with the first, is the possible use of what the ILO calls “labour-intensive public works”.<sup>81</sup> These include digging sanitation ditches, repair of public buildings, environmental improvement through erosion reduction, clearing of rural footpaths, and the like. These are also potentially geographically mobile, so can be targeted both to the poor and to hard-hit parts of the country. However, as with roads, it is necessary to have an inventory of projects stockpiled in advance, with accounting procedures in place to reduce the likelihood of misuse of funds. They also need to be capable of being quickly initiated and quickly terminated, and there needs to be the administrative capacity to do this.

### *Social protection*

These labour-intensive public works are also a possible component in a social protection programme, though it has to be noted that they are capable of abuse, with wealthy individuals effectively controlling labour gangs.

Apart from these, and emergency support following disasters, the other major device for delivering social protection in developing countries, absent a well-developed social security system, has been a system of conditional cash transfers. These have become well established and apparently successful in a number of Latin American countries, such as Brazil, Chile, and Mexico, where they appear to have played a role in sheltering the most vulnerable from the worst consequences of the crisis. In most such programmes in Africa, the conditionalities have been much less strict than in most Latin American countries, and community targeting and monitoring has been widely used. It can be costly in terms of time and funds to establish targeting and monitoring mechanisms, and they can be slow to set up. Hence, when they already exist, and function satisfactorily, they may be helpful in protecting the vulnerable, but it is unlikely to be effective to try to establish them as a *response* to the crisis.

### *Other current expenditures*

Much of other current spending is devoted to categories such as health, education, sanitation and water. It is difficult and probably unwise to attempt to use these as a countercyclical fiscal device. Indeed, it is often a government priority to shield this type of expenditure from undue volatility. This is partly to try to maintain a stable level of service provision through the cycle, partly a recognition that short-term “gluts” of funds are likely to induce inefficiency, and partly a recognition of the fact that expenditures dominated by wages are very difficult to reduce once they have been allowed to increase. The experience of ratchet effects in current expenditure is widespread and these effects have proved extremely durable.

### *Summary*

The only two categories of spending that are likely to be fruitful in a countercyclical context are *existing* pipelines of freestanding ready-to-go capital and public works projects on the one hand, and *existing* conditional cash transfer programmes on the other. In neither case would it be effective to attempt to *create* these as a response to

---

<sup>81</sup> The discussion here closely follows Weeks, 2009a.

the crisis. In consequence, a government's short-term expenditure choices are highly constrained.

## 2.5 Fiscal Responses to Date

According to the IMF (IMF 2009g), fiscal deficits are increasing in three-quarters of low-income countries.<sup>82</sup> These widening deficits reflect the functioning of automatic stabilizers, predominantly on the revenue side. However, almost one-third of countries are augmenting these with some discretionary stimulus, concentrating on the expenditure side, mostly current expenditure.<sup>83</sup> This focus on current spending contrasts with the G20 fiscal stimulus, which has been more orientated to capital spending. It is also difficult to know what counterfactual to use. Many low-income countries are projected to maintain increases in capital spending that were planned before the onset of the crisis, so these increases are not really part of a discretionary stimulus. Overall, the explicit fiscal stimulus in the low-income countries has been much more limited than in the G20 countries, but it does at least involve a more countercyclical response than they have shown in previous downturns. This was made possible by two developments prior to the crisis. The first was the widespread success in moving towards a more prudent fiscal regime noted in Part 1. The second was the equally widespread provision of external debt relief. Together, these provided a substantially enhanced fiscal space for the typical low-income country, compared to what had been available in previous downturns.

While experience varied substantially between countries, the average changes in the main fiscal magnitudes were roughly as follows; revenue fell from 26% of GDP to 25%; expenditure rose from 28% to 30%; correspondingly, the deficit widened from 2% to 5%.<sup>84</sup> As might be expected, countries at low to moderate risk of debt distress are more likely to have widened their deficits than those already in distress, or at high risk of it.<sup>85</sup>

To finance these larger deficits, countries are relying primarily on additional domestic financing, with a lesser contribution from external concessional support. The Fund projects that the increase in domestic financing will be six times as large as the increase in external financing.<sup>86</sup> This naturally raising some concerns about increased debt vulnerabilities in general, and potential problems with domestic financial markets in particular. Also, even though external debt is not set to increase much, the protracted fall in domestic revenues and in export earnings means that there are concerns about a potential future wave of sovereign defaults, and hence the possible need for further rounds of debt relief.<sup>87</sup>

---

<sup>82</sup> An interesting discussion of the range of responses in Africa is Kasakende et al, 2010.

<sup>83</sup> The composition of discretionary stimulus, by countries, is estimated as follows; tax cuts in 9 countries as opposed to spending increases in 20; current spending increases in 17 countries as opposed to capital spending increases in 13.

<sup>84</sup> This fiscal stimulus was generally accompanied by monetary easing, with the decline in inflationary pressures permitting a lowering of policy interest rates. Exchange rates, in contrast, have not played a major role in the adjustment.

<sup>85</sup> The fiscal swing is somewhat smaller in low-income countries in SSA, from an average deficit over 2004-08 of 2% to one of 3½% in 2009.

<sup>86</sup> IMF 2009g. This is consistent with the indications that aid flows are unlikely to increase significantly in the near term.

<sup>87</sup> See, for example, Hernandez and Gamarra, 2009.

As to the likely duration of increased deficits in these countries, the IMF is relatively relaxed. It argues that the use of fiscal and other policies to counter the effects of the recession should continue – finances permitting – until it is clear that recovery is under way. “With the prospect that recovery may begin soon, however, policymakers in LICs, as in the rest of the world, should begin preparing to realign policies toward medium-term sustainability.”<sup>88</sup> To help smooth adjustment without aggravating risks to debt sustainability, more concessional finance is required. It is also noted that, though the world economy is on the mend, these countries cannot count on a rapid return to the relatively benign pre-crisis environment.<sup>89</sup> Finally, this crisis, and the earlier food and fuel price surges, have highlighted the deficiencies in most of these countries’ social safety nets.

One caveat that the Fund does not dwell on is the danger of partial irreversibility of the deficit increase. As noted, much of this reflects an increase in current spending, and this is notoriously difficult to reverse.

## 2.6. Summary

There is a large empirical literature that finds fiscal policy in developing countries to be highly procyclical, in contrast to high-income countries where it is usually found to be countercyclical. There are several possible explanations. These include: decision, implementation and behavioural lags which are long relative to the duration of shocks; financial constraints and limited access to capital markets by developing country governments; the political difficulty of setting aside tax revenues in good times, as self insurance; and the much weaker role of automatic stabilizers. One implication is that it is very difficult to design and implement policies that are countercyclical, and all too easy to do the converse.

The IMF has argued that countries with “output gaps and sustainable debt and financing options have scope to implement expansionary policies ... . The main focus of fiscal stimulus should be on the expenditure side, particularly infrastructure and social spending.” Other countries will simply have to adjust, though additional donor support would reduce the extent of the adjustment. In brief, the argument is “finance if you can, adjust if you must”. A rather speculative calculation suggests that automatic stabilizers might generate a worsening of the fiscal balance by 0.2% of GDP per 1% output gap. As regards discretionary policy, evidence on the size of fiscal multipliers in developing countries is also weak; one estimate suggests that the cumulative multiplier after two years might be 0.5, or one third of that in comparable estimates for high-income countries. The implication is that, even if developing countries are able to get the direction of discretionary policy right, the associated multipliers are rather small and short-lived, going into reverse in the medium term.

The general conclusion is rather daunting; automatic stabilizers are likely to offer only a modest stimulus; discretionary policy may have a delayed, limited and temporary effect, with no guarantee that the overall impact will be of the right sign, and runs the

---

<sup>88</sup> IMF2009h, paragraph 54.

<sup>89</sup> It is unlikely, for example, that FDI flows, remittances, or bank credit and portfolio flows will recover rapidly, in view of sluggish growth in advanced economies for some time to come, as well as weakened bank balance sheets.

risk of becoming embedded. In other words, the beneficial impact on the economy may be short-lived, but the fiscal changes that delivered the original stimulus may not.

As previously noted, any short-term fiscal stimulus is better applied on the expenditure side than the revenue side of the budget. The paper discusses the relative merits of attempting a reversible expenditure increase within capital and current spending categories respectively. The only two categories of spending that are likely to be fruitful in a countercyclical context are *existing* pipelines of freestanding ready-to-go capital and public works projects on the one hand, and *existing* cash transfer programmes on the other. In neither case would it be effective to attempt to *create* these as a response to the crisis. In consequence, the government's short-term expenditure choices are highly constrained.

As to what has actually been happening, fiscal deficits are increasing in three-quarters of low-income countries. These widening deficits reflect the functioning of automatic stabilizers, predominantly on the revenue side. However, almost one-third of countries are augmenting these with some discretionary stimulus, concentrating on the expenditure side, mostly current expenditure. Overall, the explicit fiscal stimulus does involve a more countercyclical response than they have shown in previous downturns. This was made possible by two developments prior to the crisis. The first was the widespread success in moving towards a more prudent fiscal regime noted in Part 1. The second was the equally widespread provision of external debt relief. Together, these provided a substantially enhanced fiscal space for the typical low-income country, compared to what had been available in previous downturns. Whether this countercyclicality will be sustained is not yet clear; increases in current spending are notoriously difficult to reverse. To finance these larger deficits, countries are relying primarily on additional domestic financing, with a lesser contribution from external concessional support. There are potential sustainability issues.

## References

- Adam, C., and D. Bevan (2004) "Staying the course: maintaining fiscal control in developing countries" *Brookings Trade Forum 2003*, Brookings, Washington D.C.
- Adam, C., and D. Bevan (2005) "Fiscal deficits and growth in developing countries" *Journal of Public Economics*, 89, 571-597.
- Aisen, A. and D. Hauner (2008) "Budget Deficits and Interest Rates: a Fresh Perspective" IMF Working Paper, WP/08/42.
- Akitoby B., B. Clements, S. Gupta, and G. Inchauste (2006) "Public spending, voracity, and Wagner's law in developing countries" *European Journal of Political Economy*, 22, 908 – 924.
- Alesina, A., and R. Perotti (1997) "Fiscal adjustments in OECD countries: composition and macroeconomic effects" *IMF Staff Papers*, 44, 210-248.
- Berg, A., S. Aijar, and M. Hussain (2007) "The macroeconomics of scaling up aid: lessons from recent experience", IMF *Occasional Paper 253*.
- Bevan, D. (2007) "Fiscal Policy for Growth with Stability", Background Paper for the World Bank Project on Fiscal Policy for Growth and Development (see Development Committee 2007).
- Bi, H., and M. Kumhof (2009) "Jointly Optimal Monetary and Fiscal Policy Rules under Borrowing Constraints" IMF Working Paper WP/09/286.
- Bradford, C. (2005) "Prioritizing economic growth: enhancing macroeconomic policy choice" G-24 Discussion Paper no. 37, United Nations.
- Burnside, C., ed, 2005, *Fiscal sustainability in theory and practice: a handbook* World Bank, Washington, D.C.
- Calderon, C. (2009) "Infrastructure and Growth in Africa" Policy Research Working Paper 4914, World Bank.
- Chand, S.K. (1993) "Fiscal Impulse Measures and their Impact" in M.I. Blejer and A. Cheasty (eds) *How to Measure the Fiscal Deficit*, IMF.
- Dahlby, B. (2008) *The Marginal Cost of Public Funds: Theory and Applications*, MIT Press.
- Daniel, J., J. Davies, M. Fouad, and C. Van Rijckeghem (2006) "Fiscal Adjustment for Stability and Growth" IMF Pamphlet no.55.
- Development Committee of the World Bank and IMF (2007) "Fiscal Policy for Growth and Development: Further Analysis and Lessons from Country Studies".
- Easterly, W. R., Schmidt-Hebbel, K., and C. A. Rodriguez (eds, 1994) *Public Sector Deficits and Macroeconomic Performance*, OUP and World Bank.
- Easterly, W.R., 2001, "Growth implosions and debt explosions: do growth slowdowns cause public debt crises?" *Contributions to Macroeconomics*, Vol. 1 no.1.
- Easterly, W., Irwin, T. and L. Serven (2008) "Walking up the Down Escalator: Public Investment and Fiscal Stability", *World Bank Research Observer*.
- Estache, A. (2006) "Africa's Infrastructure: Challenges and Opportunities", mimeo.
- Fay, M. and M. Morrison (2007) *Infrastructure in Latin America and the Caribbean: Recent Development and Key Challenges*, World Bank.
- Fedelino, A., Ivanova, A. and M. Horton (2009) "Computing Cyclically Adjusted Balances and Automatic Stabilizers" Fiscal affairs Department, IMF.
- Foster, V. (2008) "Overhauling the Engine of Growth: Infrastructure in Africa" AICD, World Bank.

- Foster, V. and C. Briceno-Garmendia (2009) “Africa’s Infrastructure: a Time for Transformation” presentation to Africa Emerging Markets Forum.
- Gale, W.G. and Orszag, P.R. (2003) “Economic Effects of Sustained Fiscal Deficits” *National Tax Journal* 56, 463-485.
- Ghosh, A., and S. Phillips, 1998, “Warning: inflation may be harmful to your growth” *IMF Staff Papers*, 45, 672-710
- Gordon, R., and W. Li (2009) “Tax Structure in Developing Countries: Many Puzzles and a Possible Explanation” *Journal of Public Economics* 93 pages 855-866.
- Gupta, S., B. Clements, E. Baldacci, and C. Mulas-Granados (2004a) “The persistence of fiscal adjustments in developing countries”, *Applied Economics Letters*, 11, 209-212.
- Gupta, S., B. Clements, G. Inchauste, (eds) (2004b), *Helping Countries Develop: the Role of Fiscal Policy*, IMF.
- Gupta S., E. Baldacci, B. Clements, and E. Tiongson (2005) “What sustains fiscal consolidations in emerging market countries?” *International Journal of Finance and Economics*, 10, 307–321.
- Heller, P. (2005) “Fiscal Space: What It Is and How to Get It” *Finance and Development*, June 2005.
- Hernandez, L., and B. Gamarra 2009 “Debt Sustainability and the Ongoing Financial Crisis: the Case of IDA-only African Countries”, World Bank.
- Herrera, S. (2007) “Public Expenditure and Growth” World Bank Policy Research Working Paper WPS4372.
- Hnatkowska, V., and N. Loayza (2004) “Volatility and growth” World Bank Policy Research Working Paper 3184, Washington, D.C.
- Ilzetzki, E. and C.A. Vegh (2008) “Procyclical Fiscal Policy in Developing Countries: Truth or Fiction?” NBER Working Paper 14191.
- IMF (2005) “Monetary and Fiscal Policy Design Issues in Low-Income Countries”.
- IMF (2008a) *World Economic Outlook*, October 2008, Chapter 5 “Fiscal Policy as a Countercyclical Tool”.
- IMF (2008b) Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries.
- IMF (2009a) “Companion Paper – The State of Public Finances: Outlook and Medium-Term Policies after the 2008 Crisis.
- IMF (2009b) “Fiscal Policy in Sub-Saharan Africa in Response to the Impact of the Global Crisis”, IMF Staff Position Note SPN/09/10.
- IMF (2009c) “Fiscal Multipliers”, IMF Staff Position Note SPN/09/11.
- IMF (2009d) *Regional Economic Outlook: Sub-Saharan Africa: April 2009*.
- IMF (2009e) “Spillover Effects and the East African Community: Explaining the Slowdown and Recovery”, African Department, 09/02.
- IMF (2009f) “Fiscal Rules – Anchoring Expectations for Sustainable Public Finance”.
- IMF (2009g) “The Implications of the Global Financial Crisis for Low-Income Countries – an Update”
- IMF (2009h) *Regional Economic Outlook: Sub-Saharan Africa: Weathering the Storm: October 2009*
- IMF (2009i) “The State of Public Finances Cross-Country Fiscal Monitor: November 2009”, Staff Position Note SPN/09/25.
- IMF (2010) *Global Financial Stability Report: Market Update: January 2010*
- IMF and IDA (2004a), “Debt Sustainability in Low-Income Countries – Proposal for an Operational Framework and Policy Implications”.

- IMF and IDA (2004b), “Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework and Policy Implications”.
- IMF and IDA (2005), “Operational Framework for Debt Sustainability Assessments in Low-Income Countries - Further Considerations”.
- IMF and IDA (2006), “Applying the Debt Sustainability Framework in Low-Income Countries Post Debt Relief”.
- Kasakende, L., Z. Brixova and L. Ndikumana (2010) “Africa’s Counter-Cyclical Policy Responses to the Crisis” *Journal of Globalization and Development* Vol. 1, issue 1.
- Khan, M., and A. Senhadji (2001) “Threshold effects in the relationship between inflation and growth” *IMF Staff Papers*, 48, 1-21.
- Kim, D., and M. Saito (2009) “A Rule –Based Medium Term Fiscal Policy Framework for Tanzania” IMF Working Paper WP/09/244.
- Klenow, P.J. and A. Rodriguez-Clare (2005) Chapter 11 “Externalities and Growth” in *Handbook of Economic Growth*, Elsevier.
- Kopits, G., ed (2004) *Rules-based fiscal policy in emerging markets*, Palgrave Macmillan, N.Y.
- Kraay, A. (2007) “Sensitivity of fiscal space considerations to estimates of growth effects of public spending”, mimeo, World Bank, Washington, D.C.
- Kumhof, M., and D. Laxton (2009) “Fiscal Deficits and Current Account Deficits” IMF Working Paper WP/09/237.
- Nordhaus, W. (2006) “Baumol’s diseases: a macroeconomic perspective” National Bureau of Economic Research, Working Paper 12218, Cambridge, MA.
- Little, I., R. Cooper, W. Corden, and S. Rajapatirana (1993) *Boom, crisis, and adjustment: the macroeconomic experience of developing countries* OUP for the World Bank, N.Y.
- Perotti, R. (2008) “Fiscal policy in developing countries”, *World Bank PRWP 4365*.
- Roy, R. and A. Heuty (eds 2009) *Fiscal Space*, Earthscan.
- Roy, R., A. Heuty, and E. Letouze (2006) “Fiscal space for public investment: towards a human development approach” UNDP Paper prepared for the G-24 Technical Meeting, Singapore, September 2006.
- Soares, F. (2009) “Do CCTs Lessen the Impact of the Current Economic Crisis? Yes, but ...” International Policy Centre for Inclusive Growth, one pager no. 96.
- Straub, S. (2008) “Infrastructure and Growth in Developing Countries: Recent Advances and Research Challenges”, Policy Research Working Paper 4460, World Bank.
- Straub, S., Vellutini C. and M. Warlters (2007) “Infrastructure and Economic Growth in East Asia”, World Bank, mimeo.
- Thornton, J. (2008) “Explaining Procyclical Fiscal Policy in African Countries”, *Journal of African Economies*, Vol. 17, pp 451-464.
- Warlters, M., and E. Auriol (2005) “The Marginal Cost of Public Funds in Africa”, WPS3679, World Bank.
- Weeks, J. (2009a) “The Impact of the Global Financial Crisis on the Economy of Sierra Leone”, International Policy Centre for Inclusive Growth.
- Weeks, J. (2009b) “How Fiscal Policies in Africa can Respond to the Global Financial Crisis”, Centre for Development Policy and Research, SOAS.
- World Bank (2009c) “Local Sources of Financing for Infrastructure in Africa” WPS4878.