

FISCAL SPACE FOR WHAT? ANALYTICAL ISSUES FROM A HUMAN DEVELOPMENT PERSPECTIVE¹

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EXECUTIVE SUMMARY

- 1. The concept of "fiscal space" is still an evolving term, and there are different definitions that give emphasis to different aspects of the resource mobilisation issue. A generic definition that we use for this paper is: "Fiscal space is the financing that is available to government as a result of concrete policy actions for enhancing resource mobilization, and the reforms necessary to secure the enabling governance, institutional and economic environment for these policy actions to be effective, for a specified set of development objectives."
- 2. Analytical frameworks currently used to assess the sustainability and solvency of a fiscal expansion are of limited relevance to assess the *developmental* (as opposed to *fiduciary*) implications of increasing fiscal space *for a specific set of development objectives* such as the Millennium Development Goals.
- 3. A strong case exists for a wide array of setting-specific public interventions that can positively impact growth and human development through several channels. This can stimulate growth directly –through the provision of physical capital and indirectly, through its impact on human capital. It can also foster human development, both directly and through the 'trickle down' effect.
- 4. Long-term fiscal sustainability requires maintaining long-term fiduciary sustainability and minimizing the reliance on volatile and exogenous sources of external finance such as bilateral aid, concessional and non-concessional foreign borrowing.
- 5. The *fiscal space diamond* provides a framework to assess fiscal space at the national level. It maps out how (a) external grants in the form of aid or debt relief, (b) domestic revenue mobilization through improved tax administration or tax policy reforms, (c) deficit financing through domestic and external borrowing and (d) expenditures switching and raising efficiency of expenditures can finance long-term national development strategies.
- 6. The endogeneity of investment is critical to the design of long-term fiscal policy. In the short run the different instruments used to create fiscal space do not depend on the *object of their* spending to assess whether they are sustainable. A second important difference is that different development situations will require different kinds of spending to secure the MDG objective. For both these reasons, it is *operationally* important to ask the question: fiscal space for *what*?
- 7. The challenges for achieving sustainable development across different income groups of developing countries differ significantly. The role of fiscal policy and the instruments for enhancing fiscal space needs to respond to two significantly different socioeconomic situations.
- 8. The first situation (scenario 1), prevalent in most developed countries, and in many upper middle income countries is one in which the achievement of internationally agreed development goals involves two objectives for fiscal policy: (1) managing the downsides caused by structural shocks; (2) addressing poverty and other development objectives that enhance economic welfare principally by enhancing the inclusivity of the development process by increasing access of the relatively poorer sections of the population to key public goods.
- 9. In this context, expenditure switching and efficiency policy reforms represent a powerful instrument to enhance fiscal space to achieve the MDGs. The potential for additional fiscal space is correlated to the development of the country for three related reasons: (1) the scope for expenditure switching is determined by the size of the public sector, which is correlated to the output of the country; (2) productive inefficiency can be addressed through long-term capacity development programs that limit low income countries' ability to secure fiscal space through active expenditure switching policy over the short-run and (3) addressing political economy constraints to reforms is critical to improve income distribution that often represents a binding constraint to sustainable development in middle-income countries.
- 10. In addition detailed country assessments of tax performance and incidence will need to identify policy reforms that will enhance government revenue. Countercyclical fiscal policy mechanisms to protect the poor and vulnerable groups of the population also need to be strengthened to reduce countries vulnerability to shocks.

- 11. The second situation (scenario 2), prevalent in most low income countries is one in which the objective of fiscal policy is to finance a sustained magnitudinally significant and permanent in crease in public investment to support economic growth and deliver the basic necessities to secure a positive achieve human development.
- 12. In the short run countries embarking on such a development transformation will immediately face a number of challenges. Chief among these is the volatility and unpredictability of future aid flows.
- 13. Moving to a fiscal framework that is development-centered from one that is grounded in a purely fiduciary logic raises several analytical issues. The most important is what we term the "fiscal space conjecture", which explains why there continues to be a tension between the need to secure fiduciary and developmental outcomes.
- 14. There have been very few systematic attempts to calculate the development payback of a scaled up public investment programme. This is so not because such a payback is difficult to calculate, but due to a paradigmatic dogmatism that views the role of fiscal policy and public finance as being essentially prudential.
- 15. In this context, designing an exit strategy from aid is necessary to define a sustainable fiscal strategy over the long-term. Yet it is ultimately the impact of an ODA led strategy on the domestic capital accumulation process that will determine the success of MDG based national development strategies.
- 16. We are *not* arguing that such a transition will happen within the same horizon as that in which the development transformation is sought to be secured many countries that make significant progress towards the MDGs by 2015 will continue to require ODA to finance both capital and current expenditures to sustain their achievements. However, fiscal stability would require a quantification of the extent to which (and the time frame in which) consumption expenditures would be increasingly financed through domestic revenues while investment needs would be increasingly met through a combination of (mainly) domestic and (possibly some) international borrowing.
- 17. A dynamic approach to savings and investment provides a powerful understanding of the accumulation process underpinning economic growth and has major implications for economic policy making in low-income countries. The projected savings/GDP ratio is an important *indicator* of the sustainability of an aid financed development strategy.
- 18. The national planning process also needs to specify which investments require scaled up public financing so as to enable an appropriate calculation of the development payback. A 'needs assessment' exercise helps specify such investments.
- 19. A fiscal rule that recognizes the distinction between current and capital expenditure line items in the budget will ensure that fiscal restraint does not discourage growth in the aggregate public capital stock. While some allowances may be made for negative current deficits during a development transformation, with external grant financing making up the shortfall, the long-term fiscal framework must plan for all such expenditures to be financed entirely out of current revenues. This is a non negotiable requirement for a prudent long-term fiscal policy.
- 20. Our proposals are not by any means less fiscally disciplinary than those currently in use. They are of course very different and more suited to long-term fiscal targeting. A hard current budget deficit rule imposes real limits on runaway government spending and a savings indicator imposes a stringent policy requirement that either the economy grow sufficiently fast in the long-term to allow the development payback to replace aid-financed scaling up, or the economy reverse course with lower levels of private absorption to pay for the scaling up in public good provisioning substituting for aid.
- 21. A collaborative effort involving Bretton Woods Institutions expertise on fiduciary instruments and the UN system expertise in demonstrating the long term human development payback from well-designed public investment programmes, in equal partnership with other development partners and developing country grouping is therefore a matter of pressing urgency.

This paper proposes an analytical framework and policy instruments to secure fiscal space for financing a national development strategy. Our central premise is that the sustainability of policies to create fiscal space is a function of *what* the fiscal space is used for. This in turn depends on the central economic policy challenges and the attendant interventions that need to be financed to secure these challenges. The balance of emphasis placed on the stabilization, allocation and distribution and growth functions of fiscal policy would differ according to the timeframe of the analytical framework and the political economy context within which the interventions are operationalized. Finally the indicators used to assess fiscal solvency and sustainability will be very different if the assessment is carried out on a long-term, as opposed to short-term analytical context.

The first section of the paper provides an analytical framework for assessing fiscal space at the national level. It introduces the fiscal space diamond as a diagnostic tool for mapping the different fiscal instruments to secure fiscal space for the Millennium Development Goals (MDGs). Section two argues that the role of fiscal policy and the instruments for enhancing fiscal space depend on country specific challenges to achieve sustainable human development. It distinguishes between countries where managing the adverse effects of shocks and fostering a more inclusive growth is the central policy challenge from countries where a significant scaling up of public expenditures involving a significant and permanent increase in the ratio of government spending to GDP is required. In section three, we argue that expenditure switching, efficiency enhancing policy reforms and the development of countercyclical mechanisms represent the most effective instruments to address the challenges of financing development in many middle-income countries. Section four presents the main fiscal challenges for ensuring the sustainability of a scaling up of public investment and provides recommendations for designing a long-term exit strategy from aid.

1. A Framework for Assessing Fiscal Space

1.1 Definitions and Uses of Fiscal Space

Existing models estimating the cost of achieving the MDGs stress the magnitude of the financial gap for attaining the goals, which has given rise to concerns over the most appropriate instruments for enhancing "fiscal space" for the MDGs. The term 'fiscal space' is still in definitional evolution, and there are different definitions that give emphasis to different aspects of resource mobilization policy. The Interim Report on Fiscal Policy for Growth and Development to the Development Committee of the joint World Bank –IMF Board on Fiscal Policy and Growth (henceforth Development Committee, 2006) defined fiscal space as "the gap between the current level of expenditure and the maximum level of expenditures a government can undertake without impairing its solvency". Peter Heller (2005), then Deputy Director of the IMF Fiscal Affairs Department defined fiscal space as "the availability of budgetary room that allows a government to provide resources for a desired purpose without any prejudice to the sustainability of a government's financial position" (page 3).

Both definitions conceptualize fiscal space in residual terms ('room' or 'gap'). In contrast, Roy and Heuty (2005) define fiscal space as "concrete policy actions for enhancing domestic resource mobilization, and the reforms necessary to secure the enabling governance, institutional and economic environment for these policy actions to be effective". The focus on domestic resource mobilization in this definition underscores the fact that ultimately the sustainability and solvency of an economy depends on (a) the extent to which domestic financing mechanisms are able to support public expenditures and (b) the fact that the mobilization of fiscal space in a sustainable manner is a function of

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the political economy context within which fiscal space is secured – hence the emphasis on the set of feasible policy actions on the one hand and the prevailing political and economic environment on the other.³ These political economy factors – and the argument that ultimately domestic resources must pay for public expenditures even if these are, temporarily, financed by grants or foreign concessional finance – are both most relevant in the long-term⁴ rather than the short-term. In other words, while the Heller (2005) and Development Committee (2006) definitions are primarily concerned with the short-term consequences (and mainly the potential adverse effects) of an increase in public expenditure, Roy and Heuty (2005) seek to evaluate how concrete policy actions may support trend-changes in the potential for domestic resource mobilization for pro-poor public investment.

This difference in emphasis thus arises because policy concerns differ. The Development Committee (2006) definition of fiscal space is concerned with raising incremental resources for development. Clearly this is not an adequate basis on which to assess the availability of fiscal space for low and middle-income countries engaged in major development transformations aimed at securing long-term human development and economic growth. This latter focus is at the heart of the Monterrey Consensus and the MDG financing debate. In this context, giving overriding importance to short-term fiscal stability (measured through annual fiscal balance) and solvency (measured through the ratio of debt to GDP) tend to underestimate the long-term real impact of spending on these development objectives. As Goldsbrough (2007) points out, IMF programmes "the longer-term supply-side effects of higher public spending are, with some commendable recent exceptions, largely ignored in many macroeconomic frameworks". This concern motivated the Development Committee to task the Staffs of the IMF and the World Bank to produce a paper on fiscal policy in the first place. The Staffs in their report recognized the central role of fiscal policy in financing the provision of public goods needed to achieve the MDGs within a longer time horizon and declared that their intent was to focus on "on how fiscal policy could be adapted to strengthen its role with respect to growth and the achievement of the MDGs" (Development Committee, 2006, page i). But the definition they used was, in our judgment, inadequate for the purpose, causing the analysis to fall short of providing a way forward on the financing problem central to the Monterrey Consensus.

A more generic definition that we use for this paper is therefore:

"Fiscal space is the financing that is available to government as a result of concrete policy actions for enhancing resource mobilization, and the reforms necessary to secure the enabling governance, institutional and economic environment for these policy actions to be effective, for a specified set of development objectives."

In what follows we will argue that the analytical frameworks currently used to assess the sustainability and solvency of a fiscal expansion are of limited relevance to measure the developmental (as opposed to fiduciary)⁵ implications of increasing fiscal space for a specific set of development objectives that require governments to find fiscal space in the first place – such as the MDGs. For example in the

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⁵ These terms are defined in section 4.

³ The same paper we provides an important example of this endogeneity -- 'savings realization failures' - i.e., macroeconomic, social and political factors inhibiting the channelling of savings for private and public investment.

⁴ The short-term refers to the budget cycle and existing 2-3 year development frameworks such as the Poverty Reduction Strategy Papers (PRSPs). The long-term refers to the period within which a development transformation (embedded in a set of development targets) can occur. While the development transformation can take place over a defined time horizon (typically 10 to 20 years) the long-term fiscal framework goes beyond the timeframe required for such change to happen.

Development Committee Report (2006) an expansion of public expenditures is only desirable when it does not compromise "macroeconomic stability", which is further referred to as "short-term macroeconomic stability" (page 19). Thus, the short term continues to act as a binding constraint on the long-term. This framework allows for fiscal expansion only in situations where solvency is improved and macroeconomic stability is sustained. Even if fiscal space exists (i.e. public expenditure improves solvency), the Report deems fiscal expansion undesirable if it compromises short-term macroeconomic stability. The positive endogenous effects of the *outcomes* of additional public investment on solvency and stability are ignored. For instance, using fiscal space for increasing military spending will have a significantly different impact from investing in rural roads in the long run, but the standard analytical framework cannot distinguish between the fiduciary outcomes (not to mention developmental outcomes) of these very different spending decisions.

If fiscal policy should better incorporate long-term growth objectives, it is hard to see why the short-term macroeconomic impact of public expenditures is the major determining factor and thus a binding constraint in deciding on their appropriateness. Recent research establishes that the long-run macro-stability implications of a scaling up in public spending are rather different from those that emerge in a short run analysis (Gupta, Powell and Yang, 2006; Bruno and Easterly, 1998).

A dynamic approach to fiscal space requires a better understanding of the long-term effects of fiscal expansion on economic growth and human development. The debate on scaling up of public investment focuses on whether investment in infrastructure (IMF, 2004; Suescún, 2005) has a significant positive impact on growth. Further, does the magnitude (inter-temporally) of the impact allow for debt-financed investments in infrastructure greater than that admissible under fiscal rules that impose an overall ceiling on the fiscal deficit and debt/GDP ratios? On this count, the debate is inconclusive. IMF (2004) reviews over 40 studies on the subject, spanning a variety of methodologies and country groups. The review highlights the fact that there is inconclusive evidence of a significant positive causal link between public investment levels and rates of economic growth over time and across countries. This inconclusivity is largely explained by technical limitations, such as data constraints - especially in the sub-Saharan African context -, methodological challenges and econometric limitations. For instance, there is a well-known concern that the right hand-side variables of models designed to capture the impact of a set of factors – including the ratio of infrastructure investment to GDP - on growth are not independent or exogenous (Klitgaard, 2004).

This inconclusivity notwithstanding, the renewed interest in public investment within the development community and on part of developing country governments has stemmed from the growing importance of the MDG-agenda. In this respect, the IMF itself acknowledges that MDG-related investment gaps "may adversely affect the growth potential of the affected countries, and limit targeted improvements in social indicators" (IMF, 2004, page 3). There is a consensus in the literature and among development practitioners on the positive effect of infrastructure investment on productivity and output in different regional and sectoral settings (Estache, 2006; Leipziger et al., 2003). One of the most interesting features of the recent research has indeed been the refinement of the analysis of the channels through - and conditions under which - output is most responsive to such investments or to the lack thereof.

The 'poverty trap' (Sachs et al., 2004) and 'bottlenecks' (Willoughby, 2004) theories support the idea that investments in infrastructure yield substantial returns respectively in low-income (especially those slowly starting to move out of stagnation) and middle-income (in particular those that had been growing fast) countries (Willoughby, 2004). Additionally, there is strong evidence of the positive impact of

investment in transportation and communication (and of rural roads in particular) and agricultural R&D, as well as in electricity (Fan et al., 2002; Klitgaard 2004; Willoughby, 2004). The key message here is that the *type* of investments, and the channels and magnitude of their impact on output, are highly setting-specific. The policy decision making process must therefore be embedded in the local context, strengthening participation, ownership and ultimately, the adequacy of the means to the end.

This is not a simplistic argument for privileging social spending over growth objectives. There is often a false dichotomy created between programmes that secure economic growth vs. human developmentenhancing public investment programmes. The implicit assumption underlying this artificial dichotomy is that investment in economic infrastructure is growth-enhancing and therefore sustainable while social programmes would not offer economic returns that justify them. However, research in the context of the MDG agenda points to the positive impact of public investments that secure tangible developmental outcomes (such as those measured by the MDG indicators) on long-term growth (Anderson, de Renzio and Levy, 2006). While, again, the relationships and interactions at play are not yet fully understood, there is solid and growing empirical evidence that better access to water, sanitation, health facilities, transportation, can play a significant and direct role in lowering child mortality rates, prevalence of malnutrition, as well as in promoting schooling and gender equality (UNDP and JICA, 2005). Further, there is evidence of complementarities - through reciprocal positive externalities - between policies and expenditures geared toward different developmental goals - such as health and schooling or access to water and health (Agenor and Neanidis, 2006). The Report of the Commission for Africa (2005) emphasizes the "failure to appreciate the important complementarities between investment in infrastructure and social sectors [which] have also contributed to the fall in spending on infrastructure and a lack of emphasis on it in many national poverty reduction strategies" (page 234).

It is obvious and well-known that, *ceteris paribus*, improving a child's health improves its class attendance and ability to learn, and that better access to water decreases infant mortality figures. A study (Leipziger et al., 2003, page 10) surveying twenty developing countries concluded that "increasing the poorest quintile's access to piped water from its dismally low 3 percent level to the level of the richest quintile at 55 percent would eliminate more than a quarter of the difference in infant mortality between these two groups, and more than a third of the difference in child mortality". In Morocco, road improvements resulted in a rise of primary school enrollment from 28 to 68 percent (World Bank, 1996). Similarly investment in electricity increased the number of Colombian children reading books in the evening from 43 to 72 percent (Ndulu et al., 2005).

The existence of such complementarities makes a strong case, for a scaling up of multi-sectoral public expenditure programs, given that the payback from an integrated package focusing on several developmental goals is higher than the sum of the paybacks of its components taken separately.

A key conclusion is that a strong case exists for a wide array of setting-specific public interventions that can positively impact growth and human development through several channels. This can stimulate growth, both directly –through the provision of physical capital - and indirectly, through its impact on human capital (through developmental outcomes). It can also foster human development, both directly and through the 'trickle-down' effect.

What, then, would be the desirable features of a fiscal framework that supports a human development oriented public expenditure strategy, whose results can be measured in terms of progress towards quantifiable long-term development goals such as the MDGs?

1.2 An Analytical Framework for Assessing Fiscal Space

In the above section we made the analytical case for a long-term fiscal framework that would better suit the needs of the Monterrey Consensus and the critical policy question in the fiscal area for the MDGs: the availability of sustainable and adequate resources to finance public expenditures for the MDGs. Following the IMF, we would view a sustainable fiscal policy as one which (a) does not undermine fiscal sustainability in the long-term and (b) that is not charity-based or relying on exogenous (and as has been frequently pointed out) highly volatile sources of external finance such as bilateral aid, concessional and non-concessional foreign borrowing. Such a policy requires:

- An analytical framework that specifies the main features of such a long-term resource mobilization framework (see Box 1 for an example of such a framework);
- Specific indicators to assess fiscal sustainability and, if possible, suggest fiscal *rules* that could be deployed to secure the long-term sustainability of such a framework.

There are two major differences in designing an analytical framework for long-term fiscal policy as opposed for short-term. The first is that of *long-term endogeneity*. In the short run the different instruments used to create fiscal space do not depend on the *object of their* spending to assess whether they are sustainable. This is apparent in the case of efficiency gains and aid. Misspent aid will not make a fiscal strategy less sustainable in the short run, and the potential Dutch Disease associated with an expansion in ODA will not be radically tempered or enhanced depending on whether the aid is spent on guns or butter.⁶ In particular the case for domestic borrowing becomes more or less persuasive in the long term the greater the development payback from such borrowing. Similarly, long-term sustainability would ultimately require reduced reliance on the main exogenous source of fiscal space – foreign aid. For this reason UNDP and IMF work on this issue (Gupta, Powell and Yang, 2006; Roy and Heuty, 2005, Roy, Heuty and Letouzé, 2006) has highlighted the value of developing a strategy for *exit* from aid – for reasons of assessing fiscal sustainability if not for deeper political economy reasons – as a complement to strategies that propose achieving the MDGs through scaling up public investments.

A second important difference arises when one asks the following questions: Will Brazil and Ethiopia be spending on the same things to secure the MDGs? Will the same fiscal instruments be used? Different development situations will require different kinds of spending – in fact, different weights placed on the functions of public finance – to secure the MDGs.

For both these reasons, it is operationally important to ask the question: fiscal space for what?

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⁶ Though it would if spent on tradable vs. non tradable but that is not immediately pertinent in this context.

Box 1. The Fiscal Space Diamond

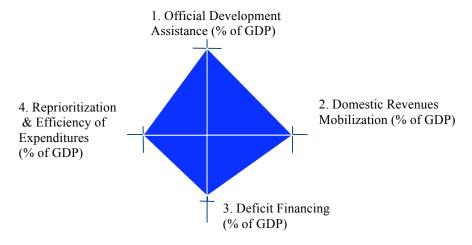
A useful operational device to explain what such an analytical framework would look like is the *fiscal space diamond*. This representation of fiscal space builds on the fiscal space diamond presented by the Development Committee (2006). The objective of the diamond is to address the questions that arise when policy makers wish to know: What are the macro fiscal possibilities to raise fiscal space to achieve intended policy goals? Such diagnostic of fiscal space needs to be highly country specific to have operational relevance.

The fiscal space diamond has four 'pillars' that collectively constitute the universe of avenues to secure fiscal space. The diamond is created by putting the four pillars together in Cartesian space, with the area of the diamond representing the aggregate fiscal space available in the country. The diamond does not include seignorage which is not commonly considered to be a desirable option. Governments can create fiscal space through the following types of fiscal instruments:

- 1) Official Development Assistance (ODA) through aid and debt relief
- 2) Domestic revenue mobilization through improved tax administration or tax policy reforms
- 3) Deficit financing through domestic and external borrowing
- 4) Reprioritization and raising efficiency of expenditures

The diamond is constructed by (a) mapping the four pillars, one on each axis, with the total resources available under each head representing a point on the axis; (b) joining the points. It is of course possible to design different variations of this generic diamond. For example if one were to calculate the grant element of a concessional loan then that part of the loan could be put under the aid pillar with the balance under the loan pillar. The diamond can be constructed in incremental or absolute terms.

There are many different situations in which the diamond can be used as an operational tool, depending on the policy assumptions. In the short run for example, expenditure switching policies and tax *policy* measures to increase revenue would be of limited value compared to measures that make public expenditures more Pareto-efficient (for example productivity gains) and tax *administration* reform measures. Conversely in the long-term the latter measures are unlikely to have as great a magnitudinal significance compared with the former.



It is therefore essential to define precisely the policy assumptions underlying the diamond, the time frame within which the different measures take effect and whether the policy actions that could be taken to tap into a source of fiscal space are endogenous or exogenous to *domestic* policy making. In annex 2 we present a detailed example of such a diagnostic. In summary there are five steps to its construction:

- (1) Identify macroeconomic context and human development issues
- (2) Identify short and long-term fiscal challenges
- (3) Identify whether challenges exogenous or endogenous in short-term
- (4) Build diamond
- (5) Present overall analytical framework

2. Fiscal Space for what?

The capital accumulation process generated by the Marshall Plan, officially known as the European Recovery Programme (ERP) offers a compelling example of respective importance of the dynamics between external assistance and domestic resource mobilization. The Marshall Plan dispensed over \$13 billion dollars between 1948 and 1952 to Western European countries constituted as the Organization for European Economic Cooperation (OEEC). Over 80 percent of this aid was in form of grants. France was the second largest beneficiary of Marshall Aid and the largest recipient if indirect aid in the form of drawing rights is included (Lynch, 1997). Marshall Aid made its most important contribution to French reconstruction supporting modernization of the French steel industry.

Aid from the United States played an important role in increasing Europe's supply of funds for investment. Marshall Aid supplemented domestic sources of investment finance, as European incomes and domestic savings collapsed following the war. Table 1 underscores the progressive rise in savings in France and the United Kingdom which gradually replaced aid financing received during the first years of the Marshall Plan.

In France, the savings rate grew from 19 percent between 1948-1951 to 27 percent between 1952 and 1960. The scaling up in public investment for infrastructure was financed through short-term mortgages and loans on promissory notes to credits for industries. Eichengreen (1995) emphasize the catalytic role of the Marshall Plan role in rebuilding and modernizing European economies and fostering capital accumulation.

Table 1: Savings in France and United Kingdom 1946-1960

	1946-1951	1948-1951	1952-1960
France	n.a	19	27
UK	9	13	16

Note: Savings are calculated as the sum of investment and the current account surplus Source: Barry Eichengreen, (1995)

The history of economic reconstruction in Europe after World War II raises critical issues for financing development in poor countries to achieve the MDGs. The present international context does not realistically allow for the possibility of replicating a Marshall Plan for developing countries. However the successful transition from reliance on aid to domestic resource mobilization underscores the fundamental importance of generating and mobilizing savings over the long term to achieve sustainable development. European countries' experience also underscores the importance of the *instruments* and *use* of fiscal space, which is critical to successful capital accumulation in developing countries. Thailand offers a more recent example of successful development transformation (Box 2).

Box 2. The Case of Thailand's Developmental Transformation

Thailand offers a more recent example of how fiscal policy contributed to a sustained process of a capital accumulation that has enabled the country to access an upper middle-income status in a few decades.

Thailand's development progress has been remarkable. Between 1950 and 2000, GDP per capita increased sevenfold, while the incidence of poverty was divided by more than five, down to 11 percent of the population. This was achieved through high growth rates ranging between 7 and 8.5 percent on average between 1960 and the 1997 crisis⁷, supported by a savings-investment nexus that grew steadily stronger until the crisis, peaking in the early 1990s when savings and investment reached respectively 34 percent and 40 percent of GDP, up from 11.5 percent and 13.6 percent in the 1950s. As a result, Thailand has achieved most of its MDGs or is close to doing so.

This process has been largely domestic-driven and financed, with little contribution and influence from ODA sources. Recent UNDP-commissioned work (Jansen and Khannabha, 2006) provides interesting insights on how fiscal policy contributed to and was impacted by the socioeconomic development of Thailand. The main lesson is that Thailand's transformation was supported by a cautious yet undisputable and well-targeted fiscal expansion. Between 1955 and 1985, the share of government expenditures over GDP rose from 11.5 percent to 18.5 percent, to stabilize at around 16-17 percent today.

The increase is even more pronounced than the figures suggest. "Per capita government expenditure at constant (1988) prices increased from around 2200 baht in 1970 to around 9500 baht in 2003". Further, an increasing share of this incremental spending was dedicated to capital and social services expenditures, "areas which support the private sector accumulation process and which promotes human development" (Jansen and Khannabha, 2006, page 42). Private investment benefited from crowding-in (rather than crowding out) effects. The resulting growth provided incremental private income that stimulated consumption and savings, whose rapid financialization was subsequently beneficial to domestic investment, while inflation was kept at low single-digit figures.

Thus well-targeted public investment and human development-related spending have been the main drivers of the fiscal expansion. In the long-term the government was able to implement policies that secured fiscal sustainability while supporting a significant permanent increase in per capita public spending.

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⁷ Causing GDP to double every 8 to 10 years for almost 40 years.

⁸ ODA represented 0.8 percent of GNI on average between 1960 and 2004.

It is important in this context to distinguish between the *purposes* for which fiscal space is generated in different socio-economic situations.

Table 2. Socioeconomic Indicators by Income Group

	Year	Income levels					
Variable		Low	Middle	Lower- middle	Upper- Middle	High	
Growth rate of GDP (%)	1990-2003	2.5	2.3	2.7	2.5	2.7	
Growth volatility	1980-2003	3.0	2.0	2.3	1.8	0.8	
Infant mortality ratio (per 1000 births)	2003	79.8	29.8	31.4	17.8	-	
Adult literacy rate (%)	2002	58	89.9	89.8	91.5	-	
Population with access to safe drinking water (%)	2002	75.7	83	82.2	90.5	99.4	
Gini coefficient	2003	35.7	43.7	43.1	48.7	34.1	
Poverty incidence (1- dollar-a-day)	2003	35.5	13.1	13.9	6.8	2	

Source: World Bank Indicators and UNDP

The challenges for achieving sustainable development across different income groups of developing countries differ significantly (Table 2). The contrast between low- and middle-income countries in poverty incidence (the proportion of people below the poverty line in low-income countries is nearly three times as much as in middle-income countries), health (infant mortality is twice as much important in low-income countries) and education (literacy rate is about 90 percent in middle-income countries against 58 percent in low-income countries) has major implications for the magnitude of fiscal space required to achieve sustainable development in countries of respective income groups. It is also important to stress the heterogeneity of the middle-income country group between upper middle-income, which exhibit indicators that are close to high-income countries, and lower middle-income countries, which still face significant chronic poverty (13.1 percent of their population is below the 1-dollar-a-day poverty line).

Middle-income countries (MICs) include ten out of the twenty countries with the highest levels of inequality in the World. Latin America is the most unequal region in the world, with Africa a close second (Bouillon and Buvinic, 2003). Ferranti et al. (2004) and Easterly (2002) show that inequality has a negative impact on long-term economic growth. Bruno et al. (1998) also show that lower initial inequality raises the likelihood that growth will reduce poverty. Reducing inequality is critical to attack poverty because an inclusive growth process benefits the poor in the short run. The dynamic effect of a decrease in inequality improves the distribution in each period –i.e. it improves "initial conditions"-which stimulates growth over the long run. In the absence of inclusive growth, MICs may experience

sharp recessions and fall back to Low Income Status because of social exclusion and inequality (Rodrik, 1999).

The incidence of poverty and the degree of inequality confront developing countries with significantly different challenges for the design of their national development strategies. The role of fiscal policy and the instruments for enhancing fiscal space need to respond to these two different socioeconomic situations. The first situation (which we refer to as 'scenario 1' in the rest of this paper), prevalent in most developed countries and in many upper middle-income countries, is one in which the achievement of internationally-agreed development goals involves two objectives for fiscal policy:

- (1) Managing the downsides caused by structural shocks;
- (2) Addressing poverty and other development objectives that enhance economic welfare principally by fostering the inclusivity of the development process by increasing access of the relatively poorer sections of the population to key public goods.

In this situation, it is the *stabilization* and *allocation* roles of fiscal policy (Musgrave, 1959) that are at the cutting edge of pro-development policy formulation. With respect to the first objective, the focus is on designing appropriate countercyclical fiscal policies to avoid anticipated shocks and to mitigate the impact of unanticipated adverse structural shocks (Dervis and Birdsall, 2006; Vos et al., 2007). The second objective focuses on securing fiscal space for *income transfers* (such as conditional cash transfers) and/or expanding the availability of public goods at the margin so as to improve the quality and access to public goods (bringing down waiting lists for medical procedures in hospitals, reducing class sizes in poorer areas, etc). This would typically require the development of expenditure switching policies that would reorient the focus of government expenditures towards increasing access to public goods. Fiscal space can thus be secured in this case through a combination of redistributive revenue and expenditure policies that:

- (1) increase the availability of targeted public services and income generating opportunities for the relatively poorer sections of the population to purchase public goods and;
- (2) expenditure switching policies that increase the availability and quality of public goods (with possibly some marginal increases in public spending if there is a strong case for doing so).

When fiscal policy is focused on the stabilization, allocation and redistribution functions of public finance then there is unlikely to be a substantial permanent increase in the size of the government in the economy (G/GDP ratio). Equally, on the revenue side, there is unlikely to be a significant permanent increase in the public sector borrowing requirement. Hence the issue is to find adequate fiscal space to secure the above objectives without typically requiring structural changes in the pattern of resource mobilization⁹ or a permanent increase in the size of the public sector.

The second situation (which we refer to as 'scenario 2' in the rest of the paper), prevalent in most low-income countries is one in which the objective of fiscal policy is to finance a sustained, magnitudinally significant and permanent increase in public investment to support economic growth and deliver the basic necessities to secure a development transformation. The time horizon to achieve this transformation is 10-20 years. In this context the *growth* and *allocation* functions of fiscal policy are at

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⁹ This does not preclude structural changes in tax policy that impact the relative incidence of taxation. In fact such changes may complement other pro-development policies if they improve distributional equity -though this is not a requirement for pro-development fiscal policy.

the cutting edge of pro-development policy formulation. This typically implies a permanent increase in government spending in the economy (G/GDP ratio) over the long-term. The expansion of government spending is consistent with "Wagner's law" (Wagner, 1911), which states that government activity increases as economies grow. The literature (Bohl, 1996; Lin, 1995; Murthy, 1993; Payne and Ewing, 1996; and Chang, 2002) confirms the positive relationship between government spending and economic growth. Yet recent research (Akitoby et al., 2004) shows that this correlation does not necessarily imply causality.

Where such development transformations are initially financed though 'scaling up' aid, it is clear that in the second scenario the magnitude of permanent fiscal space that needs to be found to sustain the achievements secured by an aid-financed scaling up is of a higher order than that required in the first scenario.

Though countries at different stages of development typically face different policy challenges that require specific fiscal instruments for enhancing fiscal space, this typology does not imply that expenditure switching policies are not pertinent in low-income countries or that middle-income countries ought not use public sector borrowing if there are major infrastructure gaps that cannot be addressed by the private sector or public-private partnerships. The objective of the distinction between poor countries requiring a scaling up of investment to address chronic poverty and middle-income countries where inequality and shocks constitute the main constraints to sustainable development is to establish a *hierarchy of instruments* to enhance fiscal space in specific development contexts. While aid, tax policy, borrowing and expenditure policy play a critical role for enhancing fiscal space in all countries, socio-economic disparities and the differential magnitude of the effort to achieve internationally-agreed development goals across countries require a substantial rethinking of the purposes of fiscal policy. Annex 1 explains the rationale for a scaling up of public investment.

3. Fiscal Space for Inclusive Growth and Risk Mitigation

3.1 Fiscal Space for Inclusive Growth

The main structural challenge to achieving long-term economic growth and sustainable human development in upper middle-income countries is inequality and social exclusion. As poverty levels in typical (upper) middle-income countries reflect unequal distribution of income and assets rather than low levels of GDP, domestic resource mobilization policy can play a major role to implement social policies and redistribution mechanisms to achieve sustainable human development, including the MDGs.

In this context aid is unlikely to represent a significant source of fiscal space for inclusive growth. According to OECD figures, upper middle-income countries only received 4 percent of total bilateral aid between 2000 and 2004. Though aid flows to lower middle-income countries represent 40 percent of total ODA¹⁰, aid volatility and concerns about its effectiveness undermine the case for ODA-financed national development strategies in these countries (United Nations, 2007). Typically international capital flows represent a more significant source of financing for development than ODA.

¹⁰ Many countries in this category are heavily indebted and have yet to receive debt relief which would provide significant – albeit one-time - increase in fiscal space.

A government can enhance fiscal space for human development through more effective tax and expenditure policy. Public revenues as a proportion of GDP averaged nearly 43 percent in developed countries but only 28 percent in middle-income countries and 23 percent in low-income countries in 2000. The differences across income groups is due to the disparities in tax revenues which reach 38 percent of GDP in high-income countries, 25 percent in middle-income countries and 19 percent in low-income countries (United Nations, 2007). Tax policy reform to enhance fiscal space for human development needs to weigh the benefits of incremental financing for transfers and public goods provision against the economic distortions of the tax. Tax policies and systems vary greatly from country to country, reflecting different sociopolitical histories and tax-collection capacities. The heterogeneity of tax systems and performances among upper middle-income and developed countries require detailed assessments at the country level. The level of development, trade openness and other structural factors determine the tax base (i.e. the tax potential a government can expect to collect).

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The structure of the tax system also plays a role in determining the progressivity of tax and transfer policies. Progressive taxation can foster inclusive growth through redistribution. However the literature suggests that the expenditure side of the budget –not tax policy- should be a primary redistributive tool (Tanzi, 1998). Some studies argue that taxation is a limited tool for reducing inequalities in income distribution because of tax evasion. Alesina (1998) finds that tax systems in Latin America did not contribute to better distribution outcomes. A review of existing studies on tax incidence in 36 countries (Chu et al., 2000) suggests that the redistributive effects of the taxes are not as large in developing countries as they are in industrialized countries. The ineffectiveness of tax policy to achieve better distribution outcomes has two policy implications: (1) tax policy does not represent a major instrument for fostering inclusive growth; (2) a detailed analysis of the incidence of taxation is critical to minimize the burden of incremental taxation on the poor and improve the progressivity of the tax system over the long run.

There is considerable scope to enhance fiscal space available to government in MICs through pro-poor expenditure switching. Yet this is not to argue that governments should simplistically earmark some percentage of their budgets to basic social services. It is difficult to specify *ex ante* the size of the potential gains from expenditure reallocation and the sectors where efficiency can be improved. Gupta et al. (1997) demonstrate that the marginal benefits of education and health spending decrease rapidly. This implies that governments should exercise caution before expanding government expenditure on education and health when the initial level of spending is already high.

Increasing expenditure *efficiency* is often suggested as the main instrument enhancing fiscal space for human development. Efficiency gains need to be weighed against distributive concerns. In other words the *benefit incidence* –who receives benefit of government services- and *expenditure incidence* -how government spending affects private incomes- are important considerations to address the policy challenges for achieving sustainable human development in (upper) middle-income and industrialized countries. An efficient allocation of resources implies that public spending optimizes the level of desired welfare –i.e. it is impossible to allocate more funds to one sector without decreasing the welfare outcomes secured in another sector. A study on the health sector in Egypt found that many local hospitals have occupancy rates below 50 percent (Gericke, 2004). Similarly, post-Communist countries

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¹¹ The tax effort of a government can be assessed by looking at the difference between the expected and the actual ratio of tax to GDP (Chambas et al., 2006).

have excess capacity in health care facilities and personnel that undermine the effectiveness of health care systems (Langenbrunner, 2005).

Expenditure switching and efficiency-enhancing reforms can therefore create fiscal space through a reallocation of resources from lower priority to higher priority (sub)sectors or through productive efficiency gains. It is essential to carefully measure the incidence of public spending on desired development outcomes. This assessment is critical to guide the allocation of expenditures and the budget making process.

Inequality is a major constraint to securing human development outcomes such as the MDGs and to fostering inclusive growth (Gottschalk, 2000). This can be done through redistributive income transfers or by more effective targeting to improve access of poor and vulnerable groups to public goods. The objective of this section is not to discuss the different mechanisms for targeting public spending. Gottret and Schieber (2006) suggest for instance that well-designed conditional cash transfers have the potential to improve human capital and health outcomes and reduce poverty in middle-income countries. Sen (1995) points out that the development of an effective targeting system is undermined by (1) asymmetric information between potential beneficiaries, (2) moral hazard, (3) administrative costs of the programs, (4) stigmatization of beneficiaries and (5) concerns regarding the sustainability of the programs, as potential beneficiaries are politically weak. These difficulties decrease as income level rises because the poor represent a smaller portion of the population and the State has a greater capacity to manage programs effectively. Hence targeting is an attractive policy option for enhancing fiscal space in MICs.

Expenditure switching policy and efficiency gains represent a powerful instrument to enhance fiscal space. The potential for additional fiscal space is correlated to the development of the country for three related reasons: (1) the scope for expenditure switching is determined by the size of the public sector, which is correlated to the output of the country (Wagner's Law); (2) productive inefficiency can be addressed through long-term capacity development programs that limit low income countries' ability to secure fiscal space through active expenditure switching policy over the short-run and (3) addressing political economy constraints to reforms is critical to improve income distribution that often represents a binding constraint to sustainable development in middle-income countries. In addition detailed country assessments of tax performance and incidence will need to identify policy reforms that will enhance government revenue.

3.2. Countercyclical Fiscal Policy

Contributing to macroeconomic stability is one of the three objectives assigned to fiscal policy (Musgrave, 1959). It is undisputed that macroeconomic stability has a central influence on the long-term growth performance of the economy. However fiscal interventions to secure macroeconomic stability have been narrowly focused on price stability and fiscal solvency. A broader definition is needed as macroeconomic stability "is also about avoiding large swings in the economy and employment" in countries vulnerable to shocks (Vos et al., 2007, page 4).

The stabilization function of fiscal policy plays a critical role in developing countries that tend to be more vulnerable to exogenous shocks than high-income countries. A typical developing country is more prone to be hit by shocks, often put in greater danger if shocks occur, and less equipped to mitigate their consequences than high-income countries (Williamson, 2005, Braun and Di Gresia, 2003). The typical economic structure, geographic location and patterns of integration in the international trade and

financial systems are the most common risk factors faced by developing countries. Over the past two decades, such risks have caused sharp variations in revenues, balance of payment shocks due to capital volatility, and natural disasters, to mention a few. When such shocks do occur, developing countries are also put in great danger as they potentially face severe and long-lasting consequences. Developing countries' ability to respond and mitigate these potentially disastrous effects is also limited by lower technical and institutional capacities, including the absence or underdevelopment of public insurance schemes and fiscal transfer systems.

Fiscal policy plays a central role in risk prevention and shock mitigation by smoothing economic activity over time and reducing uncertainty. The objective of that section is not to engage in the theoretical debate on the effectiveness of countercyclical fiscal policy for stabilization, but to discuss its relevance and instruments in different development contexts. Developing countries do not constitute a homogenous group but display differences - particularly between countries belonging to different income groups. The relevance of countercyclical policies to maintain and (or) restore stability in case of shock is not merely a positive function of a country's overall fragility. Countercyclical fiscal policy usefulness also depends on the severity of the shock12 and government's capacity to respond to such events.

Many MICs have enjoyed phases of accelerated growth in the past, but these have rarely been stable and growth has proved to be highly volatile (Gaving and Perotti, 1997; Braun and Di Gresia, 2003; Loser, 2006). Between 1990 and 2004 the standard deviation of output growth in (selected) developing countries as a whole was 1.10, while it was respectively of 1.79 and 1.73 for the subsets of LAC and Middle Eastern countries (cited in Loser, 2006, page. 4), where almost half of MICs are concentrated (World Bank data, 2005). The integration of MICs into financial markets has contributed to a combination of high and volatile rates of growth. However capital account liberalization also exposed them to balance of payment shocks that eventually led to major financial crises in the 1990s. During a period of economic slowdown, capital market volatility can result in overcorrection that will increase the severity and duration of the recession. "Hence the importance of giving these countries some room for manoeuvre in designing and implementing countercyclical macroeconomic policies" (UNDESA, 2007, page 26).

The pro-cyclical nature of macroeconomic policies -and social spending- in Latin America is a key challenge for the development of the region. According to Braun and Di Gresia (2003), "political constraints and weak institutions make saving during good times difficult", while "limited creditworthiness makes borrowing during recessions close to impossible" (page 3). As a result, governments tend to increase pro-poor spending during expansions, and to contract them during recessions, which exacerbates the effect of an economic downturn on the vulnerable segments of the population. The weakness of automatic stabilizers such as unemployment insurance schemes results in pro-cyclical discretionary responses (Braun and Di Gresia, 2003). According to a study by Ferranti et al. (2000), pro-cyclical fiscal policy accounts for 15% of the excess volatility of growth in Latin America compared to East Asia.

Changes in the terms of trade and export conditions constitute another significant source of volatility and shocks. MICs have made significant efforts in the last two decades to open their economies to

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¹² For instance, an electricity shutdown due to a shortfall of fuel import is potentially more harmful in a major industrial city than in a rural village employing traditional farming techniques.

international trade.¹³ Yet, "the concentration of their exports (by markets and by products)¹⁴ and the instability of their average prices mean that revenues from international sales fluctuate sharply" (World Bank, 2007). This in turn affects the ability of fiscal policy to play its countercyclical role.

The absence of well functioning countercyclical mechanisms is particularly problematic in MICs in an MDG-achievement perspective. MICs and significant segments of their populations face the danger of downward mobility, *precisely* because they are not among the poorest. Among developing countries over the 1978-2003 period, "it is the MIC group that demonstrates the greatest mobility", while LICs and high-income countries were less likely to change income categories. More interestingly, within these movements, "there have been more cases of countries going down than in the other direction" indicating that social and economic progress can be reversed dramatically in MICs (World Bank, 2007, page 6). The relative size of the private sector in the economy –which grows as income level rises- also calls for stability to attract and retain FDI.

A large range of instruments exist or have been proposed to reduce the variability of key macroeconomic aggregates, most of which are more adapted to MICs than to LICs. These measures include proposals such as safety nets, insurance schemes, social transfers -notably conditional cash transfer programmes, employer of last resort plans (Wray, 1997; Kregel, 2006). Macro-financial instruments can also be deployed to insure greater stability, debt management instruments, commodity stabilization funds (such as in Chile and Colombia), a stability and social investment facility for high-debt emerging countries (Dervis and Birdsall, 2006) and other facilities including a countercyclical financing mechanism (Loser, 2006). While vulnerability to shocks is a common characteristic of developing countries, technical, financial, institutional and political capacity constraints often undermine the ability of lower middle income and low income countries to design and implement countercyclical fiscal policy effectively.

4. Fiscal Space for Scaling Up

We now turn to scenario 2, which has been the focus of much of the current debate on 'scaling up'. While this debate has many dimensions we focus on the question: what would be the major factors that would inform the design of a fiscal policy for a development transformation that requires a scaling up in public investments? We acknowledge that there are several issues to do with the sustainability of such a scaling up. In this paper our focus is specifically on the fiscal dimensions of scaling up (see Heller et al., 2006; Gupta, Powell and Yang, 2006).

The starting point for our analysis is the medium to long-term fiscal framework. Typically this should reflect a government's policy perspective on how to achieve growth and, ideally, a costed plan that specifies a set of interventions that would need to be publicly financed to achieve the MDGs.

In the short run countries embarking on such a development transformation will immediately face a number of challenges. Chief among these is the volatility and unpredictability of future aid flows. Macroeconomic stability considerations may in the face of such volatility tempt the authorities to pose

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¹³ "67 of the 84 MICs for which the necessary data is available are members of the World Trade Organization, and 14 (...) are at different stages in the accession process" (World Bank, 2007, page 32).

¹⁴ According to the World Bank (1997) "their export patterns are concentrated in two ways: (i) by markets: at least 29 countries ship more than 50% of their exports to a single market; and (ii) by products: for 46% of upper-middle-income countries and 37% of lower-middle income countries, the weighting of their first three export products exceeds 50% of their total exports" (page 32).

stringent limits on the amount of aid that they are willing to programme into the fiscal framework for spending. In addition short-term financial programming will need to take account of the related "absorption-spending" issues that rise when governments seek to coordinate fiscal, monetary and exchange rate policies when seeking to implement a strategy based on scaled up aid financing.

The short-term macroeconomic challenges of scaling of aid are central issues are at the heart of the present policy debate on financing for development (Gupta, Powell and Yang, 2006). The focus in this paper is more on the long-term implications of scaling up investment to achieve the MDGs. In this context, there are two important issues:

- (1) The above short-term considerations point to the fact that no financing strategy that envisions financing MDG-related interventions based on scaled-up aid flows *in perpetuity* is sustainable.
- (2) In the long-term fiscal sustainability will therefore depend critically on the extent to which a country's macroeconomic condition will allow it to define a credible 'exit' strategy from aid-financed fiscal spending on the development transition. This implies that a fiscal strategy that defines the path for such an exit is a necessary condition for the fiscal sustainability of a long-term financing strategy to secure a development transformation.

A recent report by the Independent Evaluation Office (IEO) of the International Monetary Fund (IMF, 2007) makes the case for a rather different policy approach to the short-term sustainability challenges than has hitherto been the case. ¹⁶ It suggests that some of IMF programs with low-income countries may be unduly restricting the spending of additional aid. But the results vary a lot from country to country. According to the IEO, at the margin an IMF program targets only 27 cents of each additional dollar of aid for use towards higher public expenditures (i.e. a fiscal expansion). The rest is supposed to go to building up external reserves or paying down domestic debt.

The findings of the IEO Report are even more striking when this overall result is disaggregated according to countries' initial conditions. It turns out that what the IMF recommends for the use of additional aid depends critically on a country's initial conditions:

- 1. If external reserves are low (less than 2 ½ months of imports), virtually all aid is programmed to be saved in the form of higher reserves;
- 2. If reserves are above this level, but domestic macro conditions fail a very high test of stability-which the IEO proxies by a low inflation rate--the vast bulk of extra aid (85 cents of each dollar dollar) is channeled to reducing domestic debt;

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¹⁵ The distinction between the "absorption and spending" of aid refers to the use of the foreign exchange received and its utilization in the real economy. When official aid is transferred to an economy the foreign exchange accrues in the first instance to central bank reserves, while the recipient government is credited with the counterpart value in domestic currency. Gupta et al. (2006) defined absorption and spending as follows:

[•] Absorption is defined as a widening of the current account deficit (excluding aid), with increased imports financed by more aid, or possibly reduced exports as a result of higher domestic demand. Absorption depends on both domestic demand management and exchange rate policy.

[•] Spending is defined as a widening of the fiscal deficit (excluding aid) due to additional aid, as a result of higher government expenditures or lowered taxation.

¹⁶ We are only quoting this report to illustrate the problem, not to argue that the IMF restrictions are the only (or even the principle) factor causing volatility and unpredictability.

3. Only if reserves are high and domestic macro conditions are highly "stable" is most additional aid programmed for higher fiscal spending.

Goldsbrough (2007) argues that the share allocated to reserves should depend on how long the higher aid flows are expected to last. He also points out that the exact linkages between domestic debt reduction and macro-objectives such as economic growth are opaque and highly country-dependent. It is impossible to say what the appropriate tradeoff is without some analysis of how effective additional public spending would be -which in most cases has not been done. In other words, short-term targeting of prudential indicators such as domestic debt GDP ratios to restrain government spending tends to result in under utilization of aid resources. This underestimates the real returns from additional public spending.

The case for analyzing the impact of additional public spending on outcome variables (growth and human development) is of course all the more compelling in the long-term. When a country embarks on a development transformation that is marked by (a) clearly identifiable development outcomes such as those embodied by the MDGs, (b) an agreed set of interventions that collectively can assure the achievement of these outcomes, if adequately financed and (c) a widespread acknowledgement that aid financed public expenditures would be required to secure the development transformation then what would be the desirable features of a fiscal framework that supports such a development transformation?

4.1 The Fiscal Space Conjecture

An important difference in the long run is of course that the impact of public expenditures on desired outputs such as growth and capital accumulation is endogenous. If this endogenous impact is positive then, *ceteris paribus*, short-term negative impacts on indicators of macroeconomic stability will need to be *managed* rather than *avoided* as long as indicators show that the long run impact of such an expansion is positive. In other words, the desirability of the fiscal expansion must be assessed by weighing the costs of short run instability against the expected long-term benefits.

Why is this not done, typically, and what is the reason that, as pointed out by Goldsbrough and others, current fiscal frameworks tend to under estimate the returns from well-targeted publicly-financed interventions to secure tangible development outcomes such as the MDGs, despite there being considerable evidence to the contrary? In a separate paper (Roy et al., 2006) we have shown that an important reason for this is what we term the 'fiscal space conjecture'.

This problem can be defined as follows:

The outputs from a given set of public investments are *public goods*. Different public goods vary in the intensity to which they display *public good characteristics*.

The public finance literature identifies the *characteristics* of a public good ¹⁷ as:

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¹⁷ We define public goods here following Atkinson and Stiglitz (1987), which defines the characteristics more broadly than the original (Samuelson, 1954) definition. We are trying here to avoid using terminology such as 'pure' and 'impure' public goods, 'quasi' public goods, etc... since no universally accepted technical lexicon exists. For our purposes 'public good characteristics' suffices. We make the simplifying assumption, that the characteristics are additively separable. We also assume that all goods can be ordinally ranked as possessing higher or lower observable public good characteristics.

- Non rival consumption;
- Non excludability;
- Jointness in supply.

Our conjecture then is:

For any public investment programme¹⁸, the more the public good characteristics of the public investment outputs, the less the precision¹⁹ and predictability²⁰ of the *fiduciary* payback calculation. The less the public good characteristics, the more the precision and predictability of the *fiduciary* payback calculation.

And:

For any public investment programme the more the public good characteristics of the public investment outputs, the more the precision and predictability of the *development* payback calculation. The less the public good characteristics, the less the precision and predictability of the *development* payback calculation.

The existence and magnitude of public good characteristics affect the two paybacks differently for three principal reasons:

- (1) Jointness in supply and non rivalry in consumption make it difficult to assign unit costs and benefits to individual agent recipients. As a result proxies have to be used to calculate prices and returns.
- (2) Non excludability makes individual price calculation or market-based revenue earmarking problematic.
- (3) The fiduciary returns from public investments with strong public good characteristics are dependent on the second order impacts on revenue and expenditure.

The above jointly reduce the precision and predictability of calculations of the expected direct fiduciary return of a public investment with strong public good characteristics. They do not however affect the precision and predictability of the calculation of the expected development payback. Conversely, the impact of public investments with weak public good characteristics on developmental outcomes tends to be second order in nature, reducing the precision and predictability of the calculation of the expected development payback.

The following example will illustrate the difference between *fiduciary payback* and *development payback*.

Consider two public investment programmes:

¹⁸ A note of caution here is in order. There are some public goods where the desired outcomes cannot be quantified. The conjecture would not hold for these examples include an improved security environment, better foreign relations and greater religious freedom. Such outcomes would need to be proxied by specific quantifiable indicators (lower crime, fewer violent conflicts because of religion, etc...).

¹⁹ By *precision* we mean the degree of expected error in ex ante calculations of payback.

²⁰ By *predictability* we mean the degree of observed error in ex post payback outcomes.

- (1) A programme of public investments to increase the capacity of the country's airports;
- (2) A programme of public investments to reduce infant mortality.

Both programmes have quantifiable indicators. In the first case, the *fiduciary payback* from successful completion of the public investment programme is clearly calculable. The returns from the capacity expansion is determinable over time by projecting demand and supply estimates and the marginal returns based on the impact of the enhanced capacity expansion (given projected demand) on price. In fiduciary terms the public sector returns have a clear impact on the fiscal deficit by enhancing revenue.

The development payback is not so clear. The same problems that render the empirical investigations into the relation between public investment and growth inconclusive (discussed in section 1.1) make forecasts of the positive impact of the public investment on development variables – growth, employment, etc... - problematic (for simplicity we are ignoring negative externalities in all cases). In this circumstance one can be more confident of the predictability and precision of the fiduciary calculus than of the development calculus.

In the case of the infant mortality programme the story is reversed. Medical and public health expertise can identify which interventions would be necessary (schools, hospitals, doctors, drugs, teachers) to ensure that a given public investment programme would reduce infant mortality. 'Needs assessments' (Millennium Project, 2005) exercises and MDG-based simulation models like the World Bank's 'Maquette for MDG simulation' (Lofgren and Diaz-Bonilla, 2005) can specify the sequencing and time frame for such exercises.²¹ As long as the exercises are credible and comprehensive one can be reasonably confident of the development payback i.e. a reduction in infant mortality by a specified timeframe.

The fiduciary payback is more difficult to calculate. There is no stream of direct financial return flowing from this programme. Any returns would come through positive impacts on revenue and GDP and would affect the fiscal deficit through those channels. Perhaps a more healthy population in the long run will also generate expenditure savings on the health budget. But it is clear that the predictability and precision of fiduciary payback forecasts will be poorer than those for the development payback in this case.²²

This simple example illustrates and explains our fiscal space conjecture. It also explains why, despite the political acknowledgement of the human development agenda and the specification of quantifiable development goals, there continues to be a tension between the need to secure (fiduciary and developmental outcomes). Typically, policymakers resolve the issue by making one payback (development) contingent upon satisfactory achievement of the other (fiduciary), with the outcome that,

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²¹ A 'needs assessment' compares a country's current situation with MDG targets and identifies the combination of public investments that would enable the country to achieve the MDGs by 2015. This needs assessment should identify the particular barriers that prevent faster economic development and greater progress towards poverty reduction, and establish a set of specific interventions that to address and remove these obstacles. A needs assessment thus provides a methodology for identifying key interventions that require a significant scaling up through 2015 to achieve the MDGs. See Millennium Project (2005) Page 51 and Chapter 13. The Millennium project has applied its approach in Bangladesh, Cambodia, Dominican Republic, Ghana, Kenya, Tajikistan, Tanzania, Uganda and Yemen. The World Bank 'maquette' has been applied in Ethiopia, Nicaragua and Peru.

Note that both cases are *ceteris paribus*. Poor implementation, absorptive capacity constraints etc would have negative impacts on predictability and precision, but there is no reason to believe that such negative impacts would be dependent upon the public good characteristics of the public investment output.

as pointed out by Goldsbrough and others, the real returns from public investments tend to be underestimated. Conversely, proposals for long-term MDG-based national development strategies that provide a clear rationale for achieving the developmental outcomes quantified by the MDG indicators are faulted for being vague and imprecise on exactly how such ambitious scaled up plans could be implemented without adversely affecting the sustainability and solvency of the fisc. It is difficult to offer a ready made solution in the face of this diagnosis. What we shall attempt to do below is set out a 'roadmap' of the principal issues on which attention needs to be focused to bring about a satisfactory resolution.

First, it should be noted that the fiscal space conjecture does not deny the possibility that a harmonious solution exists in which fiscal paybacks and development paybacks are simultaneously secured. Indeed the contemporary history of successful development is precisely about simultaneously securing such paybacks. The fiduciary returns to improved economic development for China, Vietnam, Malaysia, and South Korea can, in hindsight, be judged to have been perfectly compatible with the impressive strides in poverty reduction made by these countries. UNDP-commissioned research also demonstrates how the fiscal space conjecture was managed (if not entirely resolved) in Thailand (Jansen and Khannabha, 2006).

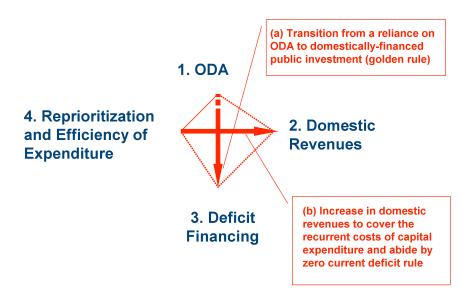
Second, it should be clear that as far as technical work on fiscal affairs goes, there have been very few systematic attempts to calculate the development payback of a scaled up public investment programme. This is so not because such a payback is difficult to calculate; rather, we feel this is due to a paradigmatic dogmatism regarding the role of public finance, that keeps it confined to a policy arena where the fiscal function is viewed as being essentially prudential in nature. The caricature of the development-oriented health minister or the dynamic energy of an infrastructure minister pitted against the conservative prudential finance bureaucracy captures this almost cultural dogmatism among and about 'people of the fisc'. This will clearly have to change if progress is to be made.

It is in the above context that the argument that exit from aid is, in fact, a *necessary* condition to define a sustainable fiscal strategy becomes relevant. Sachs et al. (2004) argue that the returns from investments in basic human capabilities (as embodied by the MDGs) are sufficiently high to justify very large increases in flows of development assistance. However the implicit assumption behind this argument is that there exist multiple fiscal equilibria²⁴, one in which the economy can be in a low revenue-low investment setting and another in which the economy can be in a high revenue-high investment setting. Foreign aid helps the economy transition between these two equilibria but the new situation can only be sustained through access to alternative sources of finance – in other words through an increase in the other three quadrants of the diamond (see Figure 1 below).

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²³ We recognize that development is a risky business with potentially serious prudential and fiduciary consequences when things go wrong, as they all too often do. The fact that it is possible to achieve the MDGs by 2015 should donors make good on their ODA commitments is in itself not a cause for celebration. Structural shocks, volatile financing for a scaled-up public investment programme, and even natural disasters and political conflicts can detract from expected results. These risks and uncertainties have direct and tangible fiduciary impacts which can be of a magnitude that would threaten or even reverse achievements on the MDG front. Such shocks and volatilities – more generally, a combination of random events due to uncertainty that, collectively, have a negative structural impact on macro-fiscal fundamentals, such as the debt stock - can, over time, seriously reduce the capacity of a country to engage in structural transformation to achieve development results of the type called for by the MDGs. It is therefore important not to assume these away and to devise instruments to mitigate their impact.

²⁴ The alternative assumption is of course that aid will be required in perpetuity to allow countries to stay permanently above a single permanent equilibrium an assumption we reject as unrealistically imperial to hold water.



For this reason, this paper argues -with Gupta et al. (2006) - that a strategy of exit from aid – or a strategy that plans for significantly diminished reliance on aid – is a *necessary operational condition* to defining a sustainable fiscal path for an aid financed development transformation, underpinned by a long-term MDG-based national development strategy.

The above should not simplistically be interpreted to mean that aid-financed strategies need to be replaced by revenue financed strategies. In a paper elsewhere we argue (Roy and Heuty, 2005) that while the theoretical conclusions of poverty trap models demonstrate how capital scarcity can lead to underdevelopment, it is ultimately the impact of an ODA-led strategy on the domestic capital accumulation process that will determine the success of MDG-based national development strategies. We argue that ultimately there will need to be a transition to reliance on domestic resources to finance sustained expenditure on interventions needed to *maintain* the development transformation secured by the initial ODA financed rise in G/GDP ratios. We are *not* arguing that such a transition will happen within the same horizon as that in which the development transformation is sought to be secured – many countries that make significant progress towards the MDGs by 2015 will continue to require ODA to finance both capital and current expenditures to sustain their achievements. However, fiscal stability would require a quantification of the extent to which (and the time frame in which) consumption expenditures would be increasingly financed through domestic revenues while investment needs would be increasingly met through a combination of (mainly) domestic and (some) international borrowing.

4.2 Fiscal Rules and Indicators for the Long-term

Having therefore identified the broad dimensions of a long-term fiscal framework within which to underpin a development transformation such as that implied by an MDG-based national development strategy we proceed in this section to outline possible rules and indicators that would help operationalize such a long-term fiscal framework.

Economic theory establishes that, ex post, Investment equals savings:

$$I \equiv S$$

In the context of economic development, the investment-savings identity has traditionally been interpreted as an important constraint for securing development finance. This has often resulted in an emphasis on short-term macroeconomic stability at the expense of investment and long-term economic growth (Development Committee 2006, 2007 and Roy et al. 2006).

A dynamic approach to savings and investment provides a powerful understanding of the accumulation process underpinning economic growth and has major implications for economic policy making in low-income countries. An inter-temporal approach to investment-savings dynamics needs to address the following analytical challenge to explain *how* equilibrium is achieved: What channels link investment to human development outcomes including (1) economic growth and (2) the MDGs.

The inter-temporal investment-savings entity can be written as:

$$\sum I_t \equiv \sum S_t \quad \text{v-} \quad t = 0,1,2,...,t-1, t$$

This allows for savings-investment imbalances to exist temporarily but closure to occur over the time period t. Alternatively this can be expressed as d(S) = d(I) for all t such that the above holds. Let S = (Y - C) + A i.e. there are no foreign capital inflows but there is foreign aid (A). C is total consumption (of domestic and foreign goods and services).

Now consider an expansion in foreign aid, entirely in grant form each year commencing in year t of amount A for (t-1) years. Assume the aid is absorbed and spent. In such a case d(S) = A = d(I) for each time period 1,2,...t-1.

At time t there is no aid. In such a case clearly either d(I) must adjust downwards or something must happen to d(S).

Given our assumption of no foreign capital inflows -d(A) at time period t must be matched equally by a countervailing increase in d(Y-C) i.e. there must either be GDP growth or reduced consumption to sustain investment levels.

This is intuitively the case for saying that an important determinant of the fiscal sustainability of an aid-financed strategy is the savings rate when there is exit from aid. And if reduced consumption is not desirable then there needs to be growth in GDP (dY/Y) to that, *inter alia* generates an increase in savings that is sufficient to substitute for the aid financing. The net result – higher levels of production and consumption as well as higher rates of saving and investment relative to GDP collectively constitute

a higher order *process* of capital accumulation at time t than was the case at time period 0. The alternative scenario is simply a reversion to the capital accumulation *process* that existed at time 0.

Allowing for foreign capital inflows merely broadens the argument but does not change it from a macro *fiscal* perspective (there are important implications from a balance of payments perspective, outside the scope of this paper). It should be clear from the above that at time period t capital inflows would need to be higher, *ceteris paribus* than domestic inflows to substitute for the increase in aid at time t. This would have the same end-result – a higher order capital accumulation process if the policy to attract capital succeeded and the reverse if it failed.

From the fiscal perspective the above is of direct interest especially when the 'I' referred to above is public investment. Assuming a fiscal rule that requires that the current deficit is zero, and, as a simplifying assumption, zero government saving, the aid-financed scaling up in public investment would need to be replaced over time through recourse to either domestic or foreign borrowing²⁵. The decision on which path to take would be country-specific but domestic borrowing at reasonable interest rates have the great merit of not detracting from a country's GDP -though there are important implications for the *distribution* of GDP (Lerner, 1948). The point above is that if for this or some other reason, the policy choice is to finance the exit from aid domestically then it is a requirement that d(S) increase to allow this to happen at time t. For this to occur without negative effects on consumption, a higher order capital accumulation process would be required.

The examples of the Marshall Plan in France and the United Kingdom and Thailand's recent experience discussed in section 2 empirically show the role of capital accumulation in the development process.

For all these reasons therefore the projected savings/GDP ratio is an important *indicator* of the sustainability of an aid financed development strategy. It is important to emphasize here that this ratio would serve as an *indicator* and *not* an *objective* of fiscal policy. There is a vast body of theoretical and empirical research on the savings growth relationship, and the position that policymakers wish to adopt on that debate would determine whether or not an increased savings rate is a desirable policy objective. The point we are making here is simply that the future projected rate of savings would provide an indicator as to the extent to which aid-financed capital expenditures could, in the future be financed, to scale, using domestic resources. Such an indicator would allow us to asses the feasibility of using a "golden rule" for a long-term fiscal framework, i.e. that domestic borrowing be used exclusively to finance capital investments.

Second, what these investments are matters critically for fiscal sustainability, it is also important to specify further norms or rules on which investments should be financed. As we argued in section 1, existing indicators ignore – or lead to fiscal strategies that underestimate Goldsbrough (2007) - the positive endogenous outcomes of public spending. But for this to be so, we must first be satisfied that the objects of government spending are those that are likely to lead to such positive endogenous outcomes, as the development transformation begins to take space. The most obvious case for being so convinced is when a credible plan to achieve a set of quantifiable development outcomes – such as the MDGs – exists, and is operationalized by identifying a critical set of interventions that collectively

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²⁵ There are, of course important balance of payments implications of foreign (including concessional borrowing). That impact on debt sustainability. We acknowledge this constraint but treat it as exogenous within the scope of this paper

would secure such outcomes, and makes it both necessary and fiscally prudent to adequately calculate the development, as opposed to fiduciary, payback from enhanced fiscal space in the long-term.

A study by Rodriguez and Moreno (2006) of the sustainability of fiscal expansions in 109 economies finds in this context that the sustainability of fiscal expansions depends on the *type* of expenditures. If the development payback is sufficiently high, then deficit financed public investments are compatible with fiscal sustainability and an expanded G/GDP ratio. In this context the authors find that (a) democracy and (b) education expenditures tend to have more sustainable fiscal expansions with defense spending having a *negative* effect on the sustainability. Clearly therefore the sustainability of a fiscal expansion is critically dependent on the *purposes* for which the expansion is undertaken. As Rodriguez and Moreno (2006) have shown empirically it is critical from the perspective of fiscal sustainability (not just welfare maximization) whether such investments happen in defense spending or education, for instance.

A corollary to the above argument is that norms and/or rules within the long-term fiscal framework that specified the type of financing would not encourage privileging infrastructure investments over other investments by excluding them from any fiscal sustainability calculus (see section 1.1 for a detailed discussion). Instead we would argue that the case for a fiscal expansion would depend on the total package of investments in interventions that can be demonstrated to bring development payback (precisely and predictably as defined earlier) measured by assessing the quantitative progress made as a result of such interventions to secure a set of development outcomes such as the MDGs.

While these rules and indicators provide guidelines for fiscal space for securing capital spending required for a development transformation, what about current (recurrent) spending? ²⁶

Most budgets classify current and capital expenditures separately. However the fiscal deficit does not make this distinction, being defined as the difference between current revenues and current *and* capital expenditures. A fiscal rule that recognizes the distinction between current and capital expenditure line items in the budget will ensure that fiscal restraint does not discourage growth in the aggregate public capital *stock* (the corresponding on-budget *flow* variable being gross public sector capital formation). On this count, the current budget deficit/surplus would be a logical indicator to choose.

We therefore argue that a zero current deficit rule is an important long-term policy target for fiscal responsibility in a long-term fiscal framework. While some allowances may be made for negative current deficits during a development transformation, with external grant financing making up the shortfall, the long-term fiscal framework must plan for all such expenditures to be financed entirely out of current revenues. This is a non-negotiable requirement for a prudent long-term fiscal policy. It is salutary to note the importance that has been attached to securing this fiscal target by, for example, the Finance Minister of India, even in a situation where high growth and booming current account surpluses afford that country room to maneuver and where historic and present day current deficits do not immediately threaten fiscal solvency.

In this context we would argue that it is important to strictly follow the present definition of what items are treated as current (or recurrent) expenditures in the economic classification of public expenditures.

²⁷ There is of course the issue what which expenditures fall under each category, a point we take up later in this section.

²⁶ Current spending is defined per the economic classification as all government consumption expenditure.

Again it is necessary to emphasize this point because of the confusion between the definition of current expenditure as used in the economic classification and the argument that public expenditures that output "constructed by the public sector that provide longer-term benefits to society over time" (Mintz and Smart, 2006) should be treated as capital expenditures. For example health services use labor – doctors and nurses - and buildings – hospital, dispensaries - to produce health services. The joint output, health services, yields returns in the future through higher income paid to a healthier workforce. Why then shouldn't public expenditures on teachers or nurses' salaries be treated as capital expenditures given that they yield returns in the future?

There are two reasons for not doing this:

- The exhaustion principle: The services provided by teachers and health workers are 'exhausted' or fully delivered when their job is done (teaching children, treating patients).
- The recurrent financing need principle: The services do not on their own create future human capital which is created through a combination of capital inputs (like hospitals) to which we apply current inputs (like doctors and nurses) on a continuous and recurrent basis which is why current expenditures are sometimes referred to as recurrent expenditures.

Jointly when these principles are applied then it means that those inputs that would require current (or recurrent) financing to produce the same output (health services) should be treated as current expenditures. It is for this reason that depreciation is also treated as recurrent expenditures. There are accounting alternatives to secure predictable funding for such expenditures that can be implemented if that is the wish of policy makers. For example, a trust fund whose income would pay teachers salaries could be created, whereby the income from the fund would pay the salaries even while the corpus of the fund could, in principle, be accounted for as capital spending. But this would not allow expenditure items that are classified as current expenditures to be excluded from such classification.

Such a rule has the added merit of acting as an automatic stabilizer on domestic borrowing, when supplemented by rigorous procedures that require the recurrent consequences of capital expenditure (RCCE) to be calculated and accounted for in budget estimates as a prior condition for clearing capital expenditure proposals.²⁸

Thus the above rules and indicators would provide the long-term complement to short-term assessments of fiscal solvency and sustainability replacing the fiscal deficit as the summary indicator of fiscal prudence with a —more stringent — zero current deficit rules liberates space for exit from aid to a degree consistent with the availability of future domestic resources, as signaled by the forecasted savings GDP ratio. The macroeconomic analysis that informed the design of such a fiscal framework would therefore need to specify the future impact of the development transformation on the revenue base and the savings rate to enable fiscal policy makers to assess the extent to which scaling up plans were sustainable in the long-term. In the long-term the sustainability would be contingent on the availability of *domestic* fiscal space to finance governments current and capital expenditures and would be operationalized using fiscal rules that would be very different from those used to assess short-term sustainability and solvency. They would not contradict the short-term rules — in the short run it would remain important whether short-term government fiscal solvency, Dutch Disease effects, absorption-spending issues, etc...were being managed or not. However it would remove a major policy impediment to assessing the sustainability of scaling up from a long-term perspective — the use of short-term rules and analytical frameworks to

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²⁸ It is important to make annual revisions of the RCCE which is subject to significant changes overtime.

assess the long-term availability of fiscal space with the consequent underestimation of the real economy payback from a well designed and implemented strategy to secure development transformations such as those implied by the MDGs.

Conclusion

The Millennium Declaration posed a challenge to the development policy community – to change the lives of the world's poor and vulnerable through a global partnership that would collectively implement a development transformation necessary for this purpose. The MDGs presented a concrete set of time bound development targets to secure this transformation, with the Monterrey consensus reaffirming the global commitment to securing and deploying resources for this purpose. In this paper we have argue that securing such a development transformation while assuring fiscal sustainability makes the answer to the question of "fiscal space for *what*" necessary to address the question "is fiscal space sustainable"? For this reason we have moved away in this paper from an accounting and incremental definition of fiscal space towards a policy oriented definition.

Following the IMF, we view a sustainable fiscal policy as one which (a) does not undermine fiscal sustainability in the long-term by jeopardizing the long-term fiduciary sustainability of the fisc and (b) that is not charity-based or relying on exogenous highly volatile sources of external finance. We illustrate the endogeneity of the question "fiscal space for what" by illustrating the different implications in two quite common development scenarios. Both scenarios have a common development objective - to secure financing for interventions that are targeted to secure a specific set of development objectives, such as the MDGs. The first scenario is one in which the achievement of internationally-agreed development goals involves a strategy for inclusive growth. Here the focus is on reducing income inequalities and increasing the access of the poor and vulnerable to public goods through a combination of efficiency improvements and expenditure switching policies, and protecting the development process from structural shocks through active, countercyclical fiscal policies. In this situation, it is the stabilization and allocation roles of fiscal policy that are at the cutting-edge of pro-development policy formulation. The second scenario is one in which the objective of fiscal policy is to finance a permanent increase in public investment to secure the same internationally agreed development goals. In this context the growth and allocation functions of fiscal policy are at the cutting edge of pro-development policy formulation.

In the short run countries embarking on development transformations of the type implied in Scenario 2, face a number of challenges, including aid volatility, Dutch disease effects and fiscal monetary and exchange rate policy coordination to manage "absorption-spending" issues. However, the negative consequences of these effects on short-term stability need to be *managed* to mitigate their impact on public financing of interventions to secure the development transformation, rather than considered as binding constraints on securing the financing available for such transformations. In other words, the desirability of the fiscal expansion must be assessed by weighing the costs of short run instability against the expected long-term benefits. Further in countries where the scaling up is initially financed by ODA, a strategy to exit from aid becomes operationally necessary to secure long-term fiscal sustainability.

Existing analytical frameworks are of limited use in this context and there continues to be a tension between the need to secure fiduciary and developmental outcomes. Typically, policymakers resolve the issue by making one payback (development) contingent upon satisfactory achievement of the other (fiduciary), with the outcome that, the real returns from public investments tend to be underestimated. It

is therefore necessary to define better long-term indicators and in this context we propose three types of indicators:

- (1) The future projected rate of savings would serve as an indicator (but not necessarily a policy objective) of the extent to which aid financed capital expenditures could, in the future be financed using domestic resources. Such an indicator would allow us to asses the feasibility of using a "golden rule" for a long-term fiscal framework.
- (2) It is also important to specify further norms or rules on *which* investments should be financed. A 'needs assessment' exercise helps specify such investments.
- (3) A fiscal rule that recognizes the distinction between current and capital expenditure line items in the budget will ensure that fiscal restraint does not discourage growth in the aggregate public capital *stock* (the corresponding on-budget *flow* variable being gross public sector capital formation). For a long-term fiscal framework we argue that a zero current deficit rule be an important long-term policy target for fiscal responsibility. On this count, the current budget deficit/surplus would be a logical indicator to choose. Targeting a zero current deficit would also act as an automatic stabilizer on borrowing for investment thereby reinforcing the golden rule. Allowances would need to be made for temporary deviations from this rule but a non negotiable requirement for a prudent long-term fiscal policy is that such a rule be enforced across the time horizon of policy making such that the trend is towards a zero fiscal deficit over the time horizon of a development strategy, with domestic revenues replacing ODA budget support.

Our proposals are not by any means less fiscally disciplinary than those currently in use. They are of course very different and more suited to long-term fiscal targeting for a development transformation. A hard current budget deficit rule imposes real limits on runaway government spending and a savings indicator imposes a stringent policy requirement – that either the economy grow sufficiently fast in the long-term to allow the development payback to replace aid-financed scaling up, or the economy reverse course with lower levels of private absorption to pay for the scaling up in public good provisioning substituting for aid. There are two alternatives we do not name here. The first - a reversal on the Millennium Declaration and a world in which human development in many countries does not rise to meet the expectations expressed at the Millennium Summit. The second – continued reliance on volatile unpredictable and exogenous international charity to finance development outcomes into the foreseeable future

A long-term fiscal framework is meant to complement – not replace - existing fiduciary assessments focused short-term fiscal solvency and sustainability. Indeed the latter are essential prerequisite inputs for the former. However, the absence of such instruments does not mean that an exercise where such short-term instruments are used for want of anything better is either appropriate or desirable. Institutionally the mandate and expertise of the chief dispenser of technical advice on fiscal affairs – the International Monetary Fund is focused on short-term fiscal analysis and on sound public financial management. To operationalize the long-term perspective required to meet the development financing challenge posed by the MDGs and to respond to the Monterrey consensus it would be important to devise an institutional arrangement in which long-term development payback assessments conducted by United Nations development agencies inform IMF technical and surveillance work – particularly Article IV activities - on a mandatory basis. A collaborative effort using IMF expertise on fiduciary instruments and the UN system expertise in demonstrating the long-term human development payback

from well-designed public investment programmes, in equal partnership with other development partners and developing country groupings, is therefore a matter of pressing urgency.

REFERENCES

Agenor, Pierre-Richard, and Kyriakos C. Neanidis. 2006. "The Allocation of Public Expenditure and Economic Growth." Center for Growth and Business Cycle Research Discussion Paper Series.

Akiboty, Bernardin, Benedict Clements, Sanjeev Gupta, and Gabriel Inchauste. 2006. "The Cyclical and Long-Term Behavior of Government Expenditures in Developing Countries." *European Journal of Political Economy*.

Alesina, Alberto. 1998. "The Political Economy of Macroeconomic Stabilizations and Income Inequality: Myths and Reality" In *Income Distribution and High-Quality Growth*, ed. V. Tanzi and K. Chu, 299-326. Cambridge, Massachussets: MIT Press.

Anderson, Edward, Paolo de Renzio and Stephanie Levy. 2006. "The Role of Public Investment in Poverty Reduction: Theories, Evidence and Methods." UNDP and Overseas Development Institute Working Paper 263. London: ODI.

Atkinson, Anthony and Joseph Stiglitz (1987). Lectures on Public Economics, New York: McGraw-Hill

Bohl, Martin T. 1996. "Some International Evidence on Wagner's Law." Public Finance, 51: 185-200.

Bouillon, Cesar and Mayra Buvinic. 2003. "Inequality, Exclusion and Poverty in Latin America and the Caribbean: Implications for Development." Inter American Development Bank document presented at the Seminar on Social Cohesion in Latin America, Brussels, Belgium.

Braun, Miguel and Lucian di Gresia. 2003. "Towards Effective Social Insurance in Latin America: The Importance of Countercyclical Fiscal Policy". Inter-American Development Bank Research Department Working Paper 487, presented at the Seminar Dealing with risk: Implementing Employment Policies Under Fiscal Constraints, Milan, Italy.

Bruno, Michael, Martin Ravallion and Lyn Squire. 1998. "Equity and Growth in Developing Countries: Old and New Perspectives on the Policy Issues" In *Income Distribution and High-Quality Growth*, ed. V. Tanzi and K. Chu, 299-326. Cambridge, Massachussets: MIT Press.

Budnevich, Carlos. 2002. "Countercyclical Fiscal Policy. A Review of Evidence and Some Policy Proposals." United Nations University World Institute for Development Economics Research Discussion Paper 2002/4.

Calderón, Cesar, William Easterly and Luis Servén. 2003. "Latin America's Infrastructure in the era of Macroeconomic Crises" In *The limits of Stabilization: Infrastructure, Public Deficits and Growth in Latin America*, ed. William Easterly and Luis Servén. Palo Alto and Washington D.C.: Stanford University Press and the World Bank.

Chambas, Gerard, Jean-Francois Brun, Jean Louis Combes, Philippe Dulbecco, Axel Gastambide, Samuel Guérineau, Sylviane Guillaumont and Gregoire Rota Graziosi. 2006. "Assessing Fiscal Space in

Developing Countries." Concept Paper commissioned by UNDP. Clermont-Ferrand: CERDI. http://www.undp.org/poverty/prmgmt.htm

Chang, Tsangyao. 2002. "An Econometric Test of Wagner's Law for Six Countries Based on Cointegration and Error-correction Modeling Techniques". *Applied Economics*. 34: 1157-69

Chu, Ke-Young, Hamid Davoodi and Sanjeev Gupta. 2004. "Income Distribution and Tax, and Government Social Spending Policies in Developing Countries." In *Inequality Growth and Poverty in an Era of Liberalization and Globalization*, ed. Giovanni Andrea Cornia: Oxford University Press.

Commission for Africa. 2005. Our Common Interest. Report of the Commission for Africa. London. http://www.commissionforafrica.org

Dervis, Kemal and Nancy Birdsall. 2006. "A Stability and Social Investment Facility for High Debt Countries." Center for Global Development Working Paper 77.

Development Committee. 2006. Fiscal Policy for Growth and Development- An Interim Report. Paper presented at the Development Committee Meeting, Washington D.C.

Development Committee. 2007. Fiscal Policy for Growth and Development Further Analysis and Lessons from Country Case Studies. Paper presented at the Development Committee Meeting, Washington D.C.

Easterly, William. 2002. "Inequality Does Cause Underdevelopment: New Evidence." Center For Global Development Working Paper 1.

Eichengreen, Barry. 1995. *Europe's Post War Recovery*. University of California at Berkeley: Cambridge University Press.

Estache, Antonio. 2005. "What do we know about sub-Saharan Africa's Infrastructure and the Impact of its 1990s reforms?" World Bank and ECARES, Université Libre de Bruxelles. Paper presented at the IMF Institute and the Joint Africa Institute Seminar Realizing the Potential for Profitable Investment in Africa, Tunis, Tunisia.

Estache, Antonio. 2006. "Infrastructure: A survey of Recent and Upcoming Issues." World Bank Working Paper Version 2.0.

Everhart, Stephen and Mariusz A. Sumlinski. 2001. "Trends in Private Investment in Developing Countries. Statistics for 1970-2000 and the Impact on Private Investment of Corruption and the Quality of Public Investment." The World Bank International Finance Corporation (IFC) Discussion Paper No. 44.

Fan, Shenggen, Linxiu Zhang and Xiaobo Zhang. 2002. "Growth, Inequality, and Poverty in Rural China: the Role of Public Investments." International Food Policy Research Institute (IFPRI) Research Report 125.

Fan, Shenggen and Neetha Rao. 2003. "Public Spending in Developing Countries: Trends, Determination, and Impact." International Food Policy Research Institute (IFPRI) Discussion Paper No. 99.

Ferranti, David de, Guillermo Perry, Indermit Gill and Luis Servén. 2000. Securing our Future in a Global Economy. Washington, D.C.: World Bank.

Ferranti, David de, Guillermo Perry, Francisco Ferreira and Michael Walton. 2004. *Inequality in Latin America: Breaking with History?* Washington, D.C.: World Bank.

Ferreira Cavalcanti, Pedro and Thomas Georges Malliagros. 1998. "Impactos Produtivos da Infra-Estrutura no Brasil – 1950/95." *Pesquisa e Planejamento Econonomico*, 28: 315-338

Ferreira Cavalcanti, Pedro and Leandro Gonçalves do Nascimento. 2005. "Welfare and Growth Effects of Alternative Fiscal Rules for Infrastructure Investment in Brazil." Fundação Getulio Vargas Esaios Econômicos 604.

Gavin, Michael, and Roberto. Perotti. 1997. "Fiscal Policy in Latin America." In *NBER Macroeconomics Annual 1997*, ed. B.S. Bernanke and J. Rotemberg, Cambridge, United States: MIT Press.

Gericke, Christian. 2004. "Financing Health care in Egypt: Current Issues and Options for Reform". Paper presented at the Global Medical Forum Middle East Summit, Beirut, May 11-13.

Gobrett Pablo and George Schieber. 2006. "Health Financing Revisited. A Practitioner's Guide." Washington: The World Bank.

Goldsbrough, David. 2007. "The IMF and Constraints on Spending Aid." UNDP International Poverty Center One Pager No. 34.

Gupta, Sanjeev, Keiko Honjo and Marijin Verhoeven. 2001. "The Efficiency of Government Expenditure: Experiences from Africa". *Journal of Policy Modeling*, 23(4): 433-467

Gupta Sanjeev, Robert Powell and Yongzhen Yang. 2006. *Macroeconomic Challenges of Scaling Up Aid to Africa. A Checklist for Practitioners*. Washington D.C.: International Monetary Fund

Heller, Peter S. 2005. "Understanding Fiscal Space". IMF Policy Discussion Paper

Heller, Peter S., Menachem Katz, Xavier Debrun, Theo Thomas, Taline Koranchelian and Isabell Adenauer. 2006. "Making Fiscal Space Happen! Managing Fiscal Policy in a World of Scaled-Up Aid". WIDER Research Paper No. 2006/125

International Monetary Fund. 2004. Public Investment and Fiscal Policy. Washington D.C.: IMF

International Monetary Fund Independent Evaluation Office. 2007. *An Evaluation of the IMF and Aid to sub-Saharan Africa*. Washington D.C.: IMF

Jaimovich, Dany and Ugo Panizza. 2007. "Procyclicality or Reverse Causality?" Inter-American Development Bank Research Department Working Paper 599. Paper presented at the Inter-American Development Bank and United Nations Conference on Trade and Development.

Jansen, Karel and Choedchai Khannaba. 2006. "Fiscal Space in Thailand. A Historical Perspective." UNDP, New York.

Klitgaard, Robert. 2004. "On infrastructure and Development." Paper prepared for the Planning Workshop for Infrastructure in East Asia: The Way Forward, Manila, January 15-16.

Kregel, Jan Allen. 2006. "ELR as an Alternative Development Strategy." Speech at the Levy Economics Institute for the Conference on Employment Guarantee Policies: Theory and Practice, New York, October 13–14.

Langenbrunner, John C. 2005. "Health Care Financing and Purchasing in ECA: An Overview of Issues and Reforms". Washington: The World Bank.

Leipziger, Danny, Marianne Fay, Quentin Wodon and Tito Yepes. 2003. "Achieving the MDGs - The Role of Infrastructure." World Bank Policy Research Working Paper 3163. Washington D.C.

Lerner, Abba. 1948. "The Burden of the National Debt". In *Income, Employment, and Public Policy: Essays in Honor of Alvin H. Hansen. Annals of the American Academy of Political and Social Science, Vol. 260, Postwar Reconstruction in Western Germany (Nov., 1948)*, pp. 230-231

Lin, Chi-Ang. 1995. "More Evidence on Wagner's Law for Mexico". Public Finance, 2: 267-77.

Lofgren, Hans and Carolina Diaz-Bonilla. 2006. "MAMS: A Framework for Analyzing MDGs and Poverty Reduction Strategies." DECPG, World Bank paper presented during the 5th PEP Research Network General Meeting, Addis Ababa, Ethiopia.

Loser, Claudio. 2006. "A Countercyclical financing mechanism for developing countries: wishful thinking of policy requirement?" Paper prepared for the G24 Meeting in Singapore, September 2006. Washington D.C.

Lynch, Frances. 1997. France and the International Economy. London: Routledge.

Millennium Project. 2005. *Investing in Development: A Practical Plan to Achieve the MDGs*. Report to the UN Secretary General. New York: EarthScan.

Milward, Alan S. 1984. The Reconstruction of Western Europe 1945-1951. London: Methuen & Co.

Mintz, Jack M. and Michael Smart. 2006. "Incentives for Public Investment under Fiscal Rules." World Bank Policy Research Working Paper 3860, Washington D.C.

Murthy, N.R. Vasudeva. 1993. "Further Evidence on Wagner's Law for Mexico: An Application of Cointegration Analysis," *Public Finance*, 48: 77-85.

Musgrave, Richard Abel. 1959. *Theory of Public Finance: A Study in Public Economy*. McGraw-Hill Education Europe.

Ndulu, Benno, Lolette Kritzinger van Niekerk and Ritva Reinikka. 2005. "Infrastructure, Regional Integration and Growth in Sub-Saharan Africa." In *Africa in the World Economy: The National, Regional and International Challenges*, ed. Jan Joost Teunissen and Age Akkerman. The Hague: FONDAD.

Payne, James, and Bradley Ewing. 1996. "International Evidence on Wagner's Hypothesis: A Cointegration Analysis". *Public Finance*, 51(2): 258-74.

Rodriguez, Francisco and Maria Antonia Moreno. 2006. "Plenty of Room? Fiscal Space in a Resource Abundant Economy." Wesleyan Economics Working Paper 2006-022.

Rodrik, Dany. 1999. "Where did all the growth go? External shocks, social conflict and growth collapse." *Journal of Economic Growth*, 4(4): 385-412.

Roy, Rathin and Weeks, John. 2004. "Making Fiscal Policy Work for the Poor." Paper presented at the G24 Meeting, Washington D.C.

Roy, Rathin and Antoine Heuty. 2005. "Investing in development: The MDGs, Aid and the Sustainable Capital Accumulation." *Columbia School of International and Public Affairs Journal*, 58(2). http://www.undp.org/poverty.

Roy, Rathin, Antoine Heuty and Emmanuel Letouzé. 2006. "Fiscal Space for Public Investment: Towards a Human Development Approach." Paper prepared for the G24-Meeting in Singapore, September 2006. New York: UNDP. http://www.g24.org/rroy0906.pdf

Sachs, Jeffrey, John McArthur, Guido Schmidt-Traub, Margaret Kruk, Chandrika Bahadur, Michael Faye and Gordon McCord. 2004. "Ending Africa's Poverty Trap." *Brookings Paper on Economic Activity*, 1: 117-240.

Samuelson, Paul (1954). The Pure Theory of Public Expenditure. *The Review of Economics and Statistics*. Cambridge: MIT Press

Sen, Amartya. 1995. "The Political Economy of Targeting." In *Public Spending and the Poor*, ed. D. Van de Walle and K. Neat, Baltimore: John Hopkins University Press. pp 11-24.

Suescún, Rodrigo. 2005. "Fiscal Space for Investment in Infrastructure in Colombia." World Bank Policy Research Working Paper Series 3629.

Tanzi, Vito. 1998. "Fundamental Determinants of Inequality and the Role of Government". IMF Working Paper 178.

UNDESA. 2007. "Development Cooperation with Middle-Income Countries." Chapter 1 of the Background paper to the Special Conference on Development Cooperation with Middle-Income Countries, Madrid, 1-2 March 2007. New York: The United Nations.

UNDP and JICA. 2005. Making Infrastructure Work for the Poor. New York: UNDP

United Nations. 2000. *United Nations Millennium Declaration*. *A/RES/55/2*. New York: The United Nations.

Vos, Robert, Marco V. Sánchez and Keiji Inoue. 2007. "Constraints to Achieving the MDGs Through Domestic Resource Mobilization." DESA Working Paper 36. New York: The United Nations.

Wagner, Adolf. 1911. "Staat in Nationalokonomischer Hinsicht." In *Handworterbuch der Staatswissenschaften*, Third Edition, Book VII: 743-745.

Wertheimer, Robert. 1958. "A Note on Incentive Taxation in West Germany, 1948-1955". *The Review of Economics and Statistics*, 40(2): 183-185.

Williamson, John. 2005. "Policies to Reduce the Vulnerability of Low-Income Countries." In *Protecting the Poor: Global Financial Institutions and the Vulnerability of Low-Income Countries*, ed. Jan Joost Teunissen and Age Akkerman. The Hague: FONDAD: 14-34.

Willoughby, Christopher. 2004. How Important is Infrastructure for Pro-Poor Growth. Paris: OECD.

Wood, Robert. 1986. From Marshall Plan to Debt Crisis: Foreign Aid and Development Choices in the World Economy. Berkeley: University of California Press.

World Bank. 1996. *Morocco - Socioeconomic Influence of Rural Roads: Fourth Highway Project.* Washington, D.C.: The World Bank.

Wray, L. Randall. 1997. "Government as Employer of Last Resort." Levy Institute Working Paper 213.

Annex 1. The case for a scaling up of public investment

(1) Why is the current stock of public investments inadequate to secure such a development transformation?

The fact that public investment - and especially public infrastructure investment spending – has been declining (as a share of GDP) in the developing world over the past two decades, and during the 80s in particular, has been well documented. The phenomenon has affected certain countries or regions and specific sectors more than others, but a general trend is clearly observable, with pronounced declines in public investment spending occurring during the 1980s in particular (figure 1).

Figure 1: Public Investment in Developing Countries, 1970-2000 (as a share of GDP)

Source: Everhart and Sumlinski (2001). Page 2

These declines are particularly pronounced in low-income countries which embark on the development process with a historically low stock of public and infrastructure assets. A particular example highlights the magnitude of the problem from a development perspective even in a context where public investment is not declining - total government spending on transportation and telecommunications in 43 developing countries increased by less than 7 percent between 1980 and 1998 (Fan and Rao, 2003)²⁹, corresponding to an average 0.38 percent increase per annum. At this pace, a given sub-Saharan country

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²⁹ All figures are in 1995 constant prices.

which, in 1980, aimed at doubling the mileage of its road network would not achieve its target until the year 2210.

Latin America has been the region most affected by declining public investment (figure 2). In Brazil, for instance, public investment as a share of GDP fell from a 10 percent record in 1980 to 2.2 percent in 2002 (Ferreira Cavalcanti and Gonçalves do Nascimento, 2005). In Argentina and Mexico, it reached a peak at 12 percent of GDP respectively in the late 1970s and early 1980s, to fall over both subsequent decades – in spite of a slight and temporary increase at the end of the 1990s, to a low 2 percent in 2000 (IMF, 2004).

Similar trends are observable in East Asia, Middle East and West Africa, and sub-Saharan Africa (SSA). In Asia as a whole, public investment over GDP decreased from 10 percent to 7 percent between 1980 and 2000, while SSA experienced a drop from 9 percent to 6 percent over the same period (figure 3).

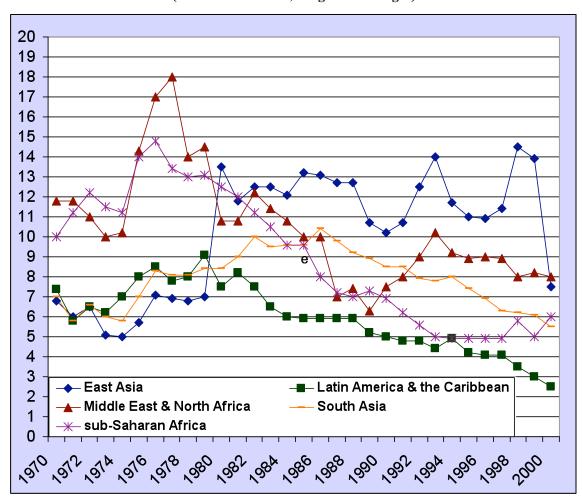


Figure 3: Public Investment by Developing Region, 1970-2000 (as a share of GDP, weighted averages)

Source: Everhart and Sumlinski (2001). Page 2

Given the very low existing stock of infrastructure assets in sub-Saharan Africa this causes "critical bottlenecks to economic growth, poverty reduction and reaching the MDGs" (Development Committee, 2006). The access rate to electricity in the whole continent is as low as 15 percent, while it is 9 percent

for telecoms, 36 percent for sanitation and 64 percent for clean water, with significant differences across countries as well as between urban and rural areas (Estache, 2005). While data is scarce and subject to caution, there is little doubt that inadequacy and poor quality of infrastructure in Africa constitute a significant impediment to growth and development in that region.

The lack of capital stock is also major constraint to sustainable economic growth and human development in some middle-income countries. The drop in public spending on infrastructure has been the most significant in Latin America where the average ratio is only 1.6 percent of GDP. The transportation sector was particularly hit in Brazil during the 1990s, since average public investments in roads in the 1990-1995 period amounted only to 25 percent of the levels observed in the 1970-1975 period (Ferreira Cavalcanti and Maliagros, 1998). This has resulted in significant 'infrastructure gaps' in these countries, in particular when contrasted to the levels of infrastructure of the most successful East Asian economies (Calderón, Easterly and Servén, 2003). According to the World Bank, logistics costs in the region represent 20 percent to 30 percent of product value, in sharp contrast to an average 9 percent for OECD countries, while the lack of adequate infrastructure services has direct detrimental effects one the poor's access to clean water and thus health (Development Committee, 2006).

(2) Why should securing such a development transformation require a scaling up in public investments?

The economic rationale for a public - rather than private- scaling up of investment to achieve the MDGs relies on three central arguments (Millennium Project, 2005):

- (a) A large proportion of the investments required to achieve the MDGs and secure long-term growth such as education or roads- are public goods. The social returns of such investments are higher than private returns, so that the private provision of public goods will be far from the social optimum. The social returns to education are higher than the private returns, so that education based on public financing is more desirable than private financing with lower education enrollment rates.
- (b) The private returns to critical infrastructure investments —which could theoretically be financed by the private sector are too low to attract private capital.
- (c) Some of the key investments to achieve the MDGs –such as primary education and public health- are merit goods: universal access to such goods is a goal in itself.

While public financing is critical to ensure adequate provision of public and merit goods, they need not be delivered by the public sector. In other words the central role of the government is to secure the provision of capital and the regulatory framework. The public delivery of services is only an option for the public sector. A range of public-private partnerships can ensure adequate provision of key social services and infrastructure

(3) How would a permanent rise in the G/GDP ratio be secured without a corresponding diminution in resources available to the private sector?

The impact of the rise in public investment on private investment behavior represents a critical policy challenge in implementing an MDG-based national development strategy.

In the 1980s and 1990s donor supported economic policy reform programmes were focused on the 'crowding-out' effect of public investment, i.e. the fear that public spending will negatively impact the

private sector's access to investment resources through increased interest rates and a non-competitive business environment (Roy and Weeks, 2004), resulting in a decline in total investment.

Many Structural Adjustment Programs of the 80s and 90s were also underpinned by the presumption that the private sector would compensate for the drop in public investment spending in key areas such as infrastructure provisioning. However, recent research shows that the private sector did not compensate for the drop in public investment as it was hoped (IMF, 2004).

The Report of the Commission for Africa (2005) concluded that the sharp reduction in infrastructure investment "was a policy mistake founded in a new dogma of the 1980s and 1990s asserting that infrastructure would now be financed by the private sector" (page 234).

These assumptions can no longer be taken for granted and there is in fact a compelling case to argue that public investments to secure the MDGs would "crowd-in", rather than "crowd-out", private investments. While the ultimate policy judgment on this needs to be made with the country context in mind, there is a body of analytical and empirical evidence that supports the case for "crowding-in". Both theoretical and empirical evidence show limited substitution between public and private investments (Calderón, Easterly and Servén, 2003). Roy and Weeks (2004) showed that the crowding-out hypothesis is based on a series of assumptions that are implausible in the context of developing countries. Theoretically, the crowding-out proposition follows from the hypothesis that financial markets are in equilibrium. If they are not, then the existence of supply side bottlenecks and/or demand constraints greatly affects the relevance of the crowding-out hypothesis. It is difficult to argue that such constraints do not exist in most developing regions, which greatly weakens the strength and relevance of the crowding-out argument, and of policies based on its premises. Recent IMF research also recognizes that "public investment can crowd-in private investment", which reflects "the complementarity of private investment with some components of public investment, especially infrastructure" (Gupta, Powell and Yang, 2006 page 26-27).