



WP/08/256

IMF Working Paper

Creating Sustainable Fiscal Space for Infrastructure: The Case of Tanzania

*Teresa Ter-Minassian, Richard Hughes,
and Alejandro Hajdenberg*

IMF Working Paper

Fiscal Affairs Department

**Creating Sustainable Fiscal Space for Infrastructure:
The Case of Tanzania**

Prepared by Teresa Ter-Minassian, Richard Hughes, and Alejandro Hajdenberg¹

November 2008

Abstract

This Working Paper should not be reported as representing the views of the IMF.

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

A common dilemma facing governments around the world is how to meet the sizeable fiscal costs of providing and maintaining infrastructure networks. Over the past decade, developed and developing countries have looked to fiscal rules, budgetary reforms, tax policy and administration measures, public-private partnerships and other innovative financial instruments to raise additional finance for infrastructure investment. This paper looks at the range of options for raising the financing to meet Tanzania's infrastructure needs. It begins with a brief survey of the evidence on the relationship between infrastructure, public investment, and economic growth, and then goes on to consider the case for additional infrastructure investment in Tanzania. The second part of the paper looks at five broad options for mobilizing additional resources to meet Tanzania's infrastructure needs: (i) direct private investment and PPPs, (ii) expenditure reprioritization and efficiency, (iii) domestic revenue mobilization, (iv) external grants and concessional financing, and (v) sovereign borrowing on domestic or international credit markets. The paper concludes with some general recommendations on what combination of the above approaches might be suitable for Tanzania.

JEL Classification Numbers: H2, H54, H6, H61, H63, O32,

Keywords: Tanzania, fiscal space, infrastructure, sovereign bonds

Author's E-Mail Address: tterminassian@imf.org; rhughes@imf.org; ahajdenberg@imf.org.

¹ This paper was presented on 26 August 2008 by Teresa Ter-Minassian as the Gilman Rutihinda Memorial Lecture hosted by the Bank of Tanzania in Dar es Salaam. The paper's analysis and policy recommendations draw on previous work from a number of colleagues in the IMF's Fiscal Affairs Department. In particular, we would like to gratefully acknowledge contributions and comments received from Brian Olden, David O. Robinson, Roger Nord, Rolando Ossowski, Sanjeev Gupta, Marco Cangiano, Richard Allen and Annalisa Fedelino. The authors would like to give special thanks to Cecilia Briceño-Garmendia from the World Bank for sharing with us the work of the Africa Country Infrastructure Diagnostic.

CONTENTS	PAGE
I. INTRODUCTION	4
II. INFRASTRUCTURE, INVESTMENT, AND GROWTH: A REVIEW OF THE EVIDENCE	5
A. Infrastructure and Growth.....	5
B. Public Investment and Growth.....	5
III. ASSESSING TANZANIA’S INFRASTRUCTURE NEED	7
A. Physical Indicators of Infrastructure Coverage, Quality and Access in Tanzania....	7
B. Public Investment in Infrastructure in Tanzania	9
IV. MEETING TANZANIA’S INFRASTRUCTURE NEEDS: PUBLIC VS PRIVATE SECTOR.....	12
A. Direct Private Investment.....	12
B. Public-Private Partnerships	14
V. CREATING FISCAL SPACE FOR INFRASTRUCTURE.....	16
A. Expenditure Reprioritization and Efficiency	17
B. Domestic Revenue Mobilization.....	21
C. Grants and Concessional Financing	23
VI. ADDITIONAL SOVEREIGN BORROWING ON COMMERCIAL CREDIT MARKETS	26
A. Domestic Capital Markets.....	30
B. External Sovereign Borrowing.....	32
VII. CONCLUSIONS	35
VIII. REFERENCES	37
TABLES	
Table 1: Infrastructure Indicators in Selected Countries	7
FIGURES	
Figure 1: Logistics Performance Index.....	8
Figure 2: Infrastructure Spending in Selected African Countries.....	9
Figure 3: Composition of Public Infrastructure Spending in Tanzania	10
Figure 4: Private Investment in Infrastructure Projects in Africa by Country.....	13
Figure 5: Private Investment in Infrastructure Projects in Africa by Sector.....	13
Figure 6: Tanzania: Selected Fiscal Indicators	17
Figure 8: Tanzania: Composition of Priority Spending.....	20
Figure 9: Revenue Mobilization and GDP per Capita in Selected African Countries.....	22

Figure 10: Aid for Trade Disbursements and Commitments.....	23
Figure 11: Broad Money/GDP in Selected African Countries	31
Figure 12: Tanzania Treasury Bonds Volumes and Yields	32

BOXES

Box 1: Spending Reviews in the United Kingdom.....	19
Box 2: Medium-Term Debt Strategies.....	30
Box 3: Lessons from First Time Bond Issuances	33

I. INTRODUCTION

After a decade or more in which it took a back seat to provision of basic services, such as education, health, and social protection, in the theory and practice of economic development, infrastructure is back on the economic policy agenda in both developed and developing countries. In the United States, concerns are being expressed about the capacity of the country's aging network of highways, roads and bridges to support future economic expansion. In sub-Saharan Africa, the recent work of the Africa Commission, the New Partnership for Africa's Development (NEPAD), the Africa Infrastructure Country Diagnostic (AICD) and the Forum on Debt and Development (FONDAD) have brought into stark relief the extent to which a lack of access to basic infrastructure services is constraining the current welfare and future growth potential of countries in the region.

While endowments and needs differ greatly across countries, a common dilemma that all governments face is how to meet the sizeable fiscal costs of providing and maintaining infrastructure networks. Over the past decade, developed and developing countries have looked to fiscal rules, reforms to budgetary procedures, tax policy and administration measures, public-private partnerships and other innovative financial instruments to raise additional finance for infrastructure investment. Each of these approaches to increasing fiscal space² for infrastructure has proven highly successful in some countries and less successful in others. Ultimately the choice of approach depends on a country's economic circumstances, institutional capacity and political preferences.

This paper looks at the range of options for raising the financing required to meet Tanzania's infrastructure needs. It begins with a brief survey of the theoretical and empirical evidence on the relationship between infrastructure, public investment, and economic growth, and then goes on to consider the case for additional infrastructure investment in Tanzania. The second part of the paper looks at five broad options for mobilizing additional resources to meet Tanzania's infrastructure needs:

- a. **direct private investment and public-private partnerships;**
- b. **expenditure reprioritization and efficiency;**
- c. **domestic revenue mobilization;**
- d. **grants and concessional financing from bilateral or multilateral sources; and**
- e. **sovereign borrowing on domestic or international credit markets.**

The paper concludes with some general recommendations on what combination of the above approaches might be suitable for Tanzania.

²Heller (2005) defines fiscal space as 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.

II. INFRASTRUCTURE, INVESTMENT, AND GROWTH: A REVIEW OF THE EVIDENCE

A. Infrastructure and Growth

The idea that there should be a positive relationship between infrastructure – defined as the physical networks that support economic activity³ – and economic growth is supported by a growing body of economic theory and empirical evidence. The early neo-classical theories of economic growth of Solow (1956) and others treated infrastructure as merely another input into a stylized, economy-wide Cobb-Douglas production function and therefore predicted that the growth impact of any infrastructure expansion would be temporary and subject to the same diminishing returns as other factors of production. However, the more recent endogenous growth models developed by, among others, Barro (1990), King and Rebelo (1990), and Barro and Sala-i-Martin (1995) predict that the accumulation of infrastructure assets can also increase the long-run rate of growth by permanently increasing the return to other factors of production. The two most recent surveys of the empirical literature on this subject undertaken by the World Bank (2007) and Straub (2008) concluded that the majority of studies covering a broad range of countries found a positive relationship between the stock of infrastructure assets and the rate of economic growth, with the strongest growth impacts coming from telecommunications, road and electricity networks (Calderón and Servén 2004, Canning and Pedroni 2004).

B. Public Investment and Growth

While the majority of empirical studies find a strong correlation between *physical indicators* of infrastructure quality, coverage and accessibility and the rate of economic growth, the relationship between *public investment in infrastructure* and growth is more ambiguous. While Ashauer's (1989) seminal studies of the growth performance of the US and other G7 countries since the Second World War found a significant and positive relationship between public investment and growth, more recent studies, based on a broader range of countries and more sophisticated statistical methods, have found a much smaller, and in some cases negative, impact of public investment on growth. (Barro 1991, Holtz-Eaken and Schwartz 1994, Devarajan et al. 1996). A recent survey of the literature on public investment and growth by the IMF (2004) found no clear-cut relationship between the two. Straub (2008) who looked specifically at the link between public investment *in infrastructure* and growth found the relationship to be positive in less than half of the studies undertaken.

This divergence in empirical findings between the respective growth impacts of the *stock of infrastructure assets* and the *flow of public infrastructure investment* suggests that while the latter has the potential to be growth-enhancing, its actual impact on growth in specific countries over the past four decades has depended on contextual

³ For the purposes of budgetary and economic classification these are defined as the transport, water, sanitation, power and telecommunications sectors.

factors. Individual case studies, as well as some of the more sophisticated econometric analyses, provide an indication of what some of those mediating, contextual factors might be. The impact of public infrastructure investment on growth seems to depend on:

- **how that investment is financed:** A number of studies (Dessus and Herrera 2000, Adam and Bevan 2005, Gupta *et al.*, 2005; Segura-Ubiergo *et al.* 2006) suggest that public investment financed by “excessive” levels of taxation, deficits, or debt tend to reduce growth by crowding out private investment or otherwise discouraging private economic activity;
- **the availability of complementary inputs some of which, such as human capital, also require public support:** Studies by Haque and Kim (2005), Adam and Bevan (2005), and Bose *et al.* (2007) have shown that public infrastructure investment has the largest impact on growth when combined with other forms of “productive” public expenditure such as effective education and health spending;
- **the institutional context within which those investment decisions are taken:** Tanzi and Davoodi (1998), Baldacci *et al.* (2001), Esfahani and Ramirez (2003), Haque and Kneller (2008) found that the quality of governance as measured by the level of political openness and transparency, perceptions of corruption, or the risk of contract repudiation can play an important role in mediating the long-term growth impact of public investments in both physical and human capital;
- **the quality of project evaluation, selection and management:** Flyvbjerg (2005) found that large cost overruns and low completion rates are common to both public and private infrastructure projects in the developed and developing world. This tendency toward overspending and underdelivery reduces the ultimate cost-effectiveness of infrastructure projects and can be attributed to a combination of (i) poor *ex-ante* analysis of project costs, (ii) inadequate oversight, control and contract enforcement during construction, and (iii) weak *ex-post* project evaluation; and
- **the regulatory and operational framework within which infrastructure services are provided.** Estache’s (2006) survey of the literature on the introduction of private competition and independent regulation in the infrastructure sector in Africa found that both had a positive impact on infrastructure quality and the impact was strongest when they were implemented jointly.

In summary, there is a growing body of theoretical and empirical evidence to support the idea that *physical improvements* in the coverage, quality and accessibility of infrastructure assets have a positive impact on welfare and growth in developed, emerging and developing economies. However, the relationship between *public investment in infrastructure* and growth is less clear-cut and more dependent on how that investment is financed and spent. The rest of this paper looks at the current state of infrastructure investment and provision in Tanzania before going on to evaluate the range of options for financing an expansion of infrastructure investment in the future.

III. ASSESSING TANZANIA'S INFRASTRUCTURE NEED

A. Physical Indicators of Infrastructure Coverage, Quality and Access in Tanzania

There is little argument that for sub-Saharan Africa as a whole, and Tanzania in particular, a lack of adequate infrastructure is a major constraint on individual and social welfare (Table 1). According to the work of the 2008 Africa Infrastructure Country Diagnostic (AICD), less than one-third of households in sub-Saharan Africa have access to electricity and less than one-fifth to improved sanitation, while only around 15 percent have access to a telephone. While Tanzania has made considerable progress in expanding access to both these services in recent years, only one-third of households have access to an improved water source while the overwhelming majority lacks access to improved sanitation. Coverage of electricity and road networks in Tanzania are low even by the standards of the region, with only 11 percent of households having access to electricity⁴ and only 28 percent of the rural population living within 2 km of an all-weather road (World Bank 2007a).

Table 1: Infrastructure Indicators in Selected Countries*

	Households w/ fixed telephone 1/ % of households	Mobile Phones 2/ Subscribers per 100 people	Household w/ Electricity 1/ % connected to network	Roads Km per 1,000 km ² of land	Access to Improved Sanitation 1/ % of the population	Water Source 1/
Tanzania	10	15	11	77	6	33
Ghana	8	23	44	239	33	36
Kenya	12	21	13	111	17	27
Mauritius	...	53	...	993	0	0
Rwanda	1	3	5	568	30	28
South Africa	27	79	63	300	46	78
Uganda	3	10	8	359	4	9
Zambia	4	15	20	123	20	34
SSA	7	16	29	...	18	29
SSA low income	6	19	26	...	15	25
SSA mid. income	19	36	55	...	41	66

Source: AICD Database, 2008; and The World Bank, World Development Indicators.

* Income groups are based on the World Bank's classification.

1/ Primary source demographic and health surveys, latest available year for the period 2000-2006

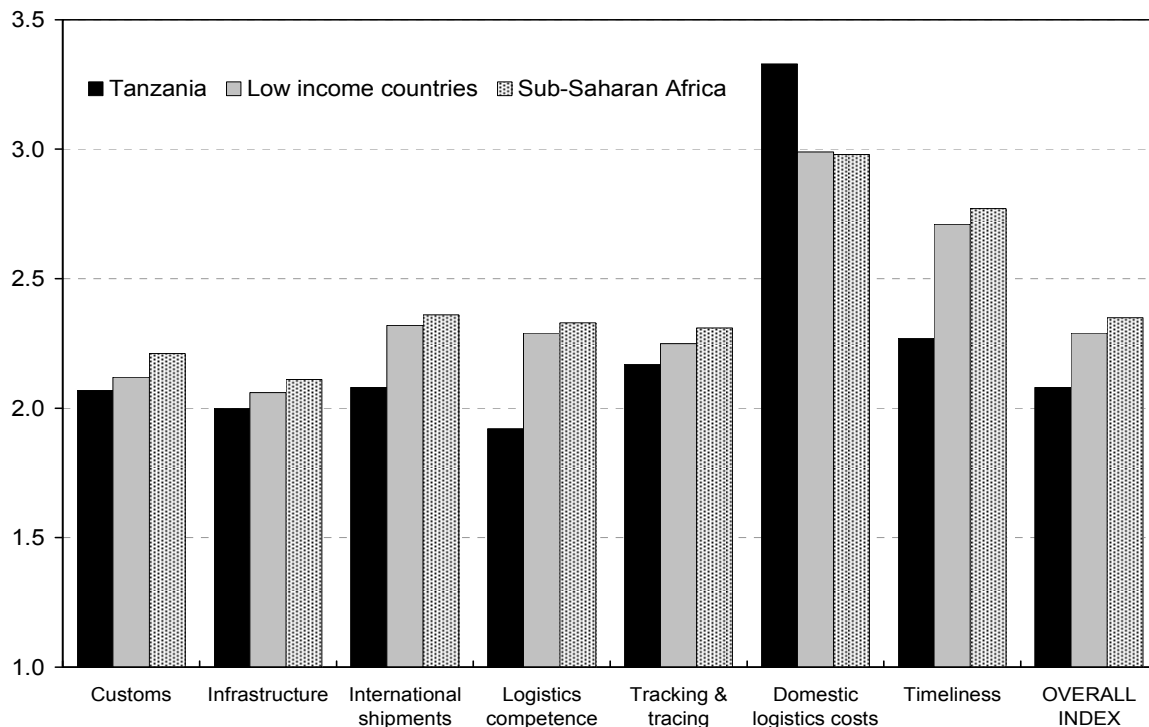
2/ As of 2006

3/ As of 2005

⁴ Data based on the 2000/01 Household Budget Survey, showing that access was 59 percent in Dar es Salaam and 30 percent in other urban areas, while rural access was only 2 percent. The results of a new household budget survey are expected later in 2008.

Despite its geographic advantages as a potential entrepôt to its landlocked neighbors Burundi, Rwanda, Uganda and Zambia, as well as the D.R. Congo, there is clear evidence to suggest that Tanzania's lack of infrastructure is acting as a constraint on the expansion of trade and economic activity in both the country and the region. The World Bank's Logistics Performance Index (World Bank 2007a) ranked Tanzania's transport infrastructure well below the average of other sub-Saharan African and low-income countries on 6 of the 7 indicators used to construct their index of trade logistics efficiency (**Figure 1**). In the power sector, Eifert, Gelb and Ramachandran's (2005) study of the global competitiveness of the African manufacturing sector found that losses from power failure amounted to 10 percent of sales for the median Tanzanian firm compared to only 1 percent for the median Chinese firm. It was these and other infrastructure and logistics-related losses, rather than differences in the cost or productivity of labor and other direct inputs, that accounted for much of the variance in measured productivity between manufacturers in China and those in Tanzania and other African countries. These empirical findings are corroborated by evidence from business surveys such as the Global Competitiveness Report (2007-08) which identified an inadequate supply of infrastructure as the most problematic factor for foreign investors doing business in Tanzania. Tanzania's 2005 Poverty Reduction Strategy Paper (MKUKUTA in Swahili) therefore rightly identifies improvements in the provision of physical infrastructure as one of the keys to the success of country's development strategy.

Figure 1: Logistics Performance Index (2007)

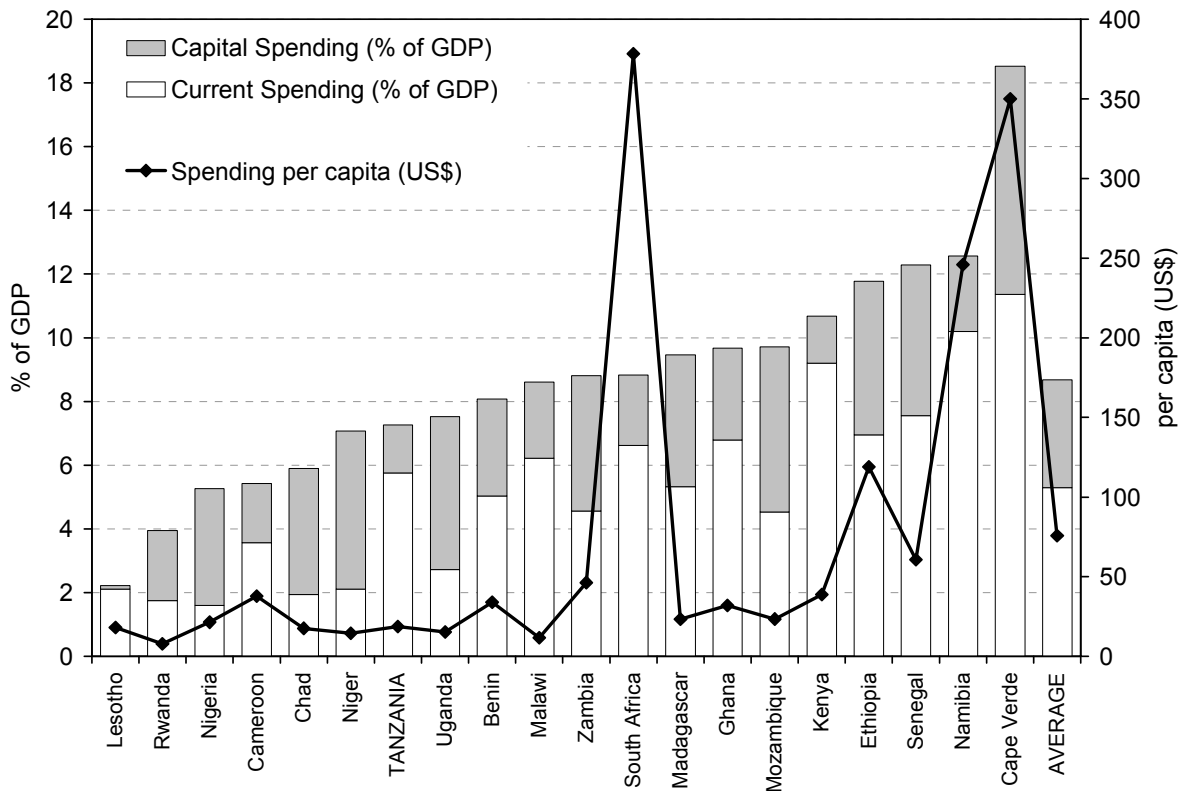


Source: World Bank's Logistics Performance Index.

B. Public Investment in Infrastructure in Tanzania

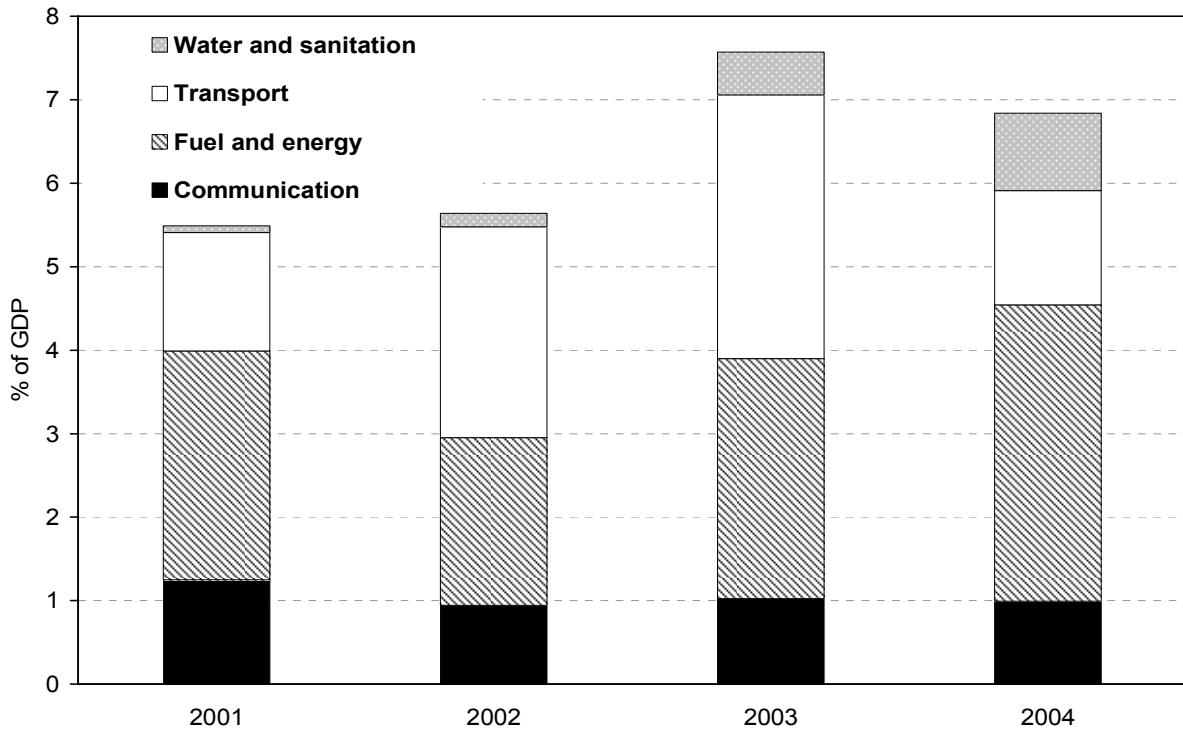
While the availability of comprehensive and timely data is limited, public spending on infrastructure and development in Tanzania appears to have risen rapidly as a share of national income in recent years, though it remains very low in absolute and per capita terms. Between 2000 and 2004, recorded infrastructure expenditure rose from below 5 percent to around 7 percent of GDP and is presumed to have continued to grow as a share of the economy over the last three years. This puts the proportion of national income that Tanzania devotes to infrastructure spending well above that of middle income countries such as Chile, Turkey and Indonesia although it is slightly below the average for the region (Figure 2). At the same time, at US\$27 per person, infrastructure spending per capita in Tanzania remains less than one-tenth the level one finds in these middle-income countries (Briceño and Foster 2007). Public infrastructure spending in Tanzania appears to have been dominated by transport and energy during this period, though spending on water and sanitation has been growing rapidly in recent years. (Figure 3)

Figure 2: Infrastructure Spending in Selected African Countries (2001-2005)



Source: Briceño, Smits and Foster (2008) and authors' calculations.

Figure 3: Composition of Public Infrastructure Spending in Tanzania (2001-2005)



Source: Briceño, Smits and Foster (2008).

However, this increase in infrastructure spending does not always appear to have translated into improvements in the quality of and access to infrastructure services in Tanzania. Ndulu's (2006) recent study of infrastructure investment and growth found that most African countries experienced a virtual collapse in investment productivity during the 1980s and 90s which has only partially recovered since. In Tanzania, the AICD found that, with the notable exception of water and, more recently, roads, expansion of access to infrastructure services is lagging behind progress in the rest of the region and in other low-income countries (Briceño and Foster 2007). For example, while access to grid electricity has increased elsewhere in Africa by nearly 50 percent from 16 to 23 percent of households between the 1990s and 2000s, in Tanzania it remains stubbornly around 10 percent (World Bank 2007b). Furthermore, electricity supply has not kept pace with demand even from the limited number of households and businesses who currently have access to the network. In the transport sector, annual freight traffic on the country's rail network has actually fallen from a high of 1,446,000 tons in 2002 to 570,000 in 2007 (Ministry of Infrastructure Development 2007). A 2007 survey of transshipment times between the port of Dar es Salaam and Kampala found that more than 50 percent of the transit time was accounted for by delays at the port itself, and the number of days in which containers sit idle at the port has continued to rise over the past few years despite a substantial increase in port investment (SSATP 2007).

While part of this discrepancy is no doubt due to lagged effects, nevertheless Tanzania also seems to suffer from some of the same institutional weaknesses that have reduced the impact of investment on infrastructure performance in other countries. For example:

- **budget classification:** the country's budget classification, reporting and accounting systems do not allow for the ready identification and monitoring of public infrastructure expenditure—part of which is either conducted outside of the central government or not systematically recorded in the government's accounts;
- **project selection:** a 2006 audit of procurement practices of 20 public entities found significant weaknesses, with compliance only at 39 percent of procurement regulations. Several recent high profile scandals have also highlighted the weaknesses in this area, in particular regarding the lack of transparency in the bidding process and problems enforcing large government contracts;
- **budget execution:** in 2006-07 only about 50 percent of central and local governments' development expenditure was executed. While the creation of the Tanzania National Roads Authority has helped to boost budget execution rates for major trunk road projects from around 50 percent in 2002-03 to over 75 percent in 2006-07, execution rates for regional and local road rehabilitation projects remain around 40 percent (Ministry of Infrastructure Development, 2007); and
- **regulatory frameworks:** the AICD estimates that hidden fiscal costs resulting from underpricing and other inefficiencies in the power sector amounted to nearly 2.5 percent of GDP between 2001 and 2006 (Briceño, Smits, and Foster 2008).

Therefore, while a sustained increase in infrastructure investment is certainly necessary to meet Tanzania's development objectives, it is unlikely to be sufficient, nor is its impact likely to be fully felt, in the absence of complementary measures aimed at improving how that money is allocated and spent.

IV. MEETING TANZANIA'S INFRASTRUCTURE NEEDS: PUBLIC VS PRIVATE SECTOR

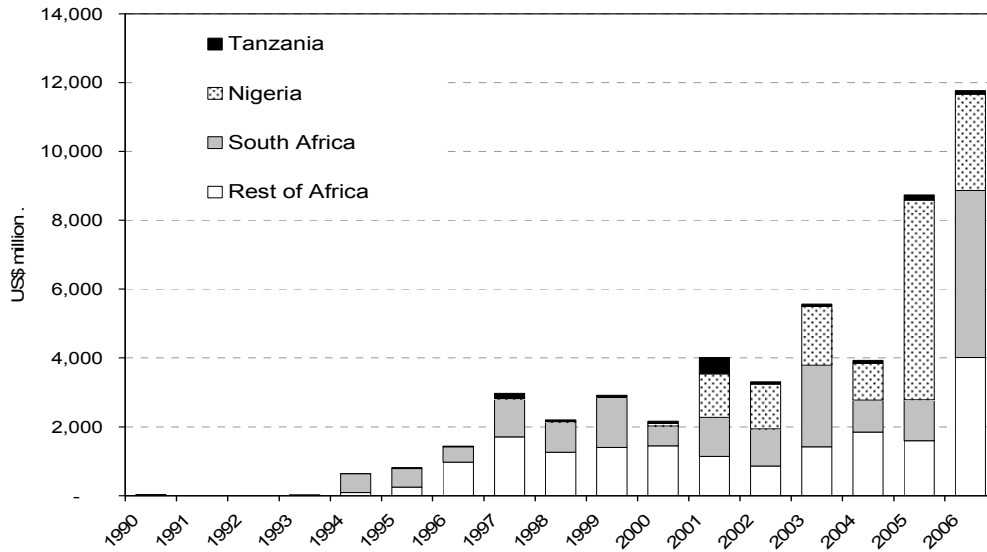
In Tanzania, as in every other country, the provision, expansion and maintenance of infrastructure networks often entail sizable, lumpy and sustained costs. While meeting these costs was once the near-exclusive preserve of governments, over the past two decades the private sector has played an increasing role in the financing, construction and management of infrastructure assets in advanced, emerging and some developing economies. Therefore the first question that any government contemplating an increase in infrastructure investment ought to ask itself is: Are the associated costs most effectively met by the public or private sectors? This section considers recent experience in the region with two approaches to attracting greater private financing into the infrastructure sector:

- A. direct investment** in the form of equity financing of newly privatized infrastructure companies or direct participation in newly liberalized markets for infrastructure services; and
- B. public-private partnerships** in the form of joint ventures, concessions, or design-build-finance-operate arrangements between the government and private firms.

A. Direct Private Investment

The opening of local capital markets to international financial flows and rising domestic savings rates, including in the region's growing pension funds, hold out the prospect for greater private financing of infrastructure projects in Africa. Estache's (2006) survey of private sector involvement in the infrastructure sector in Africa found that levels of private participation in the electricity, water and sanitation, telecoms and transport sectors were at or above the levels seen in other low-income countries, though somewhat below those seen in middle-income countries. According to the World Bank's Private Participation in Infrastructure database, between 2000 and 2006, private commitments to infrastructure in Africa increased more than five-fold from around US\$2 billion to over US\$11 billion, though two countries, South Africa and Nigeria, accounted for around two-thirds of those commitments (**Figure 4**).

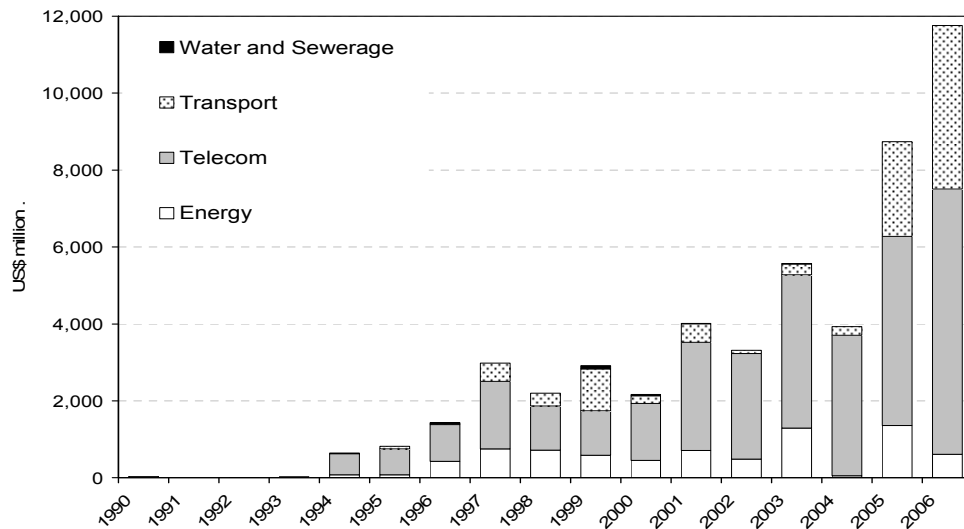
Figure 4: Private Investment in Infrastructure Projects in Africa by Country (1990 – 2006)



Source: World Bank PPI Database

However, despite the growing private sector presence in Africa’s infrastructure sectors, overall levels of private investment in African infrastructure remain low. Between 1990 and 2004, the private sector accounted for only around 10 percent of infrastructure investment in sub-Saharan Africa with the vast majority of that investment concentrated in the telecoms sector (Ndulu 2007). Even in the telecommunications sector, most of Africa’s newly privatized companies have been reliant upon partial or full guarantees from external agencies or development banks to make their debt sufficiently attractive to domestic investors (Shephard *et al.*, 2006).

Figure 5: Private Investment in Infrastructure Projects in Africa by Sector (1990 – 2006)



Source: World Bank PPI Database

B. Public-Private Partnerships

Public-private partnership arrangements (PPPs) may provide a better means of sharing the investment costs, benefits, and risks associated with infrastructure projects between the public and private sector. PPPs in advanced countries typically take the form of design-build-finance-operate schemes in which the government specifies the services it wants the private partner to deliver and then leaves the private provider to design, build and operate the asset in line with the terms of the contract. In principle an efficient PPP arrangement should involve a substantial transfer of project risk to the private sector, though this is not always the case in practice. Infrastructure projects represent the single largest category of PPPs worldwide, and recent studies of the determinants of the success or failure of infrastructure PPPs in emerging market and developing countries highlight the importance of having in place *ex ante* (i) a clear legal, regulatory and pricing framework for the sector, (ii) professional capacity in the finance ministry and relevant sectoral ministries to draft and scrutinize contracts, (iii) professional project management, and (iv) transparent procedures for the awarding of performance incentives and enforcement of sanctions (Harris 2003; Guash 2004; Bhatia and Gupta 2006). Gratwick and Eberhard's (2007) study of independent power projects in eight African countries underlines how rarely these conditions have been met among Sub-Saharan countries over the past decade.

While PPPs are in their infancy in most parts of Sub-Saharan Africa, experience in South Africa holds lessons for how to make effective use of this vehicle for building effective partnerships between public and private sectors. South Africa has the longest and broadest experience with PPPs in the region, with more than 50 projects in development or implementation at the national level and over 300 at the municipal level since 1994. (Farlan 2005). South African experience with PPPs over the past decade has underscored the benefits of

- **putting in place a clear legal and regulatory framework for PPPs from the start:** the 1999 Public Finance Management Act and associated Treasury regulations, guidance and manuals have provided the framework for contracting between the government and private sector;
- **starting small and expanding gradually:** for the first three years of the program, the Government averaged only two new national PPP contracts per year, building up to six in 2006-07; and
- **building central capacity to evaluate the affordability, value for money, and risk transfer of proposed PPP contracts:** in 2000 a dedicated and professional PPP unit was established in the South African Treasury to advise ministries, provinces and municipalities on technical issues and act as a central gatekeeper for approval of PPP contracts (Burger 2008).

The absence of a clear legal and regulatory framework, excessive ambition and a lack of capacity to evaluate and manage contracts help explain the more mixed experience with

PPPs elsewhere in the region, including in Tanzania. The government of Tanzania is currently developing a policy framework for public-private partnerships. Given Tanzania's mixed initial experience with the use of PPPs in the port of Dar es Salaam, the purchase of electricity by the state-owned electricity company Tanesco from independent power producers, and several airport concessions, it is right that the government should develop its legal framework and analytical capacity in this area before venturing further.

V. CREATING FISCAL SPACE FOR INFRASTRUCTURE

The relative paucity of direct private investment in African infrastructure and the fledgling nature of infrastructure PPPs in the region suggest that the public sector will need to continue to act as the principal source of infrastructure financing for most of the region. The challenge for Tanzania and other low-income African countries is therefore how, in the face of an array of pressing demands on the public purse, to create the fiscal space required to meet the large, lumpy and long-term costs of infrastructure construction and maintenance. This section discusses the range of tools and approaches available for increasing fiscal space and assesses the scope for Tanzania to make use of each of them to meet its infrastructure and development needs.

Options for increasing fiscal space

Governments seeking to create fiscal space for additional infrastructure investment within their budgets have four broad options at their disposal:

- A. reprioritization of spending** away from less productive forms of expenditure and toward growth-enhancing infrastructure investment and **improvements in expenditure efficiency** within a given overall expenditure envelope;
- B. identification of new domestic sources of revenue** which can be used to finance additional infrastructure investments without affecting the overall fiscal balances;
- C. attracting additional grants and concessional finance** from bilateral or multilateral sources; and
- D. an expansion of sovereign borrowing** on domestic or international commercial credit markets.

Given the scale of the infrastructure challenge in the region, African governments need to explore *all four options* if they are to mobilize the resources necessary to reach their growth potential.

Evolution of fiscal space in Tanzania

Rapid growth in domestic revenues and external aid has considerably expanded fiscal space in Tanzania since the start of this decade. As shown in **Figure 6**, between 2001-02 and 2007-08⁵:

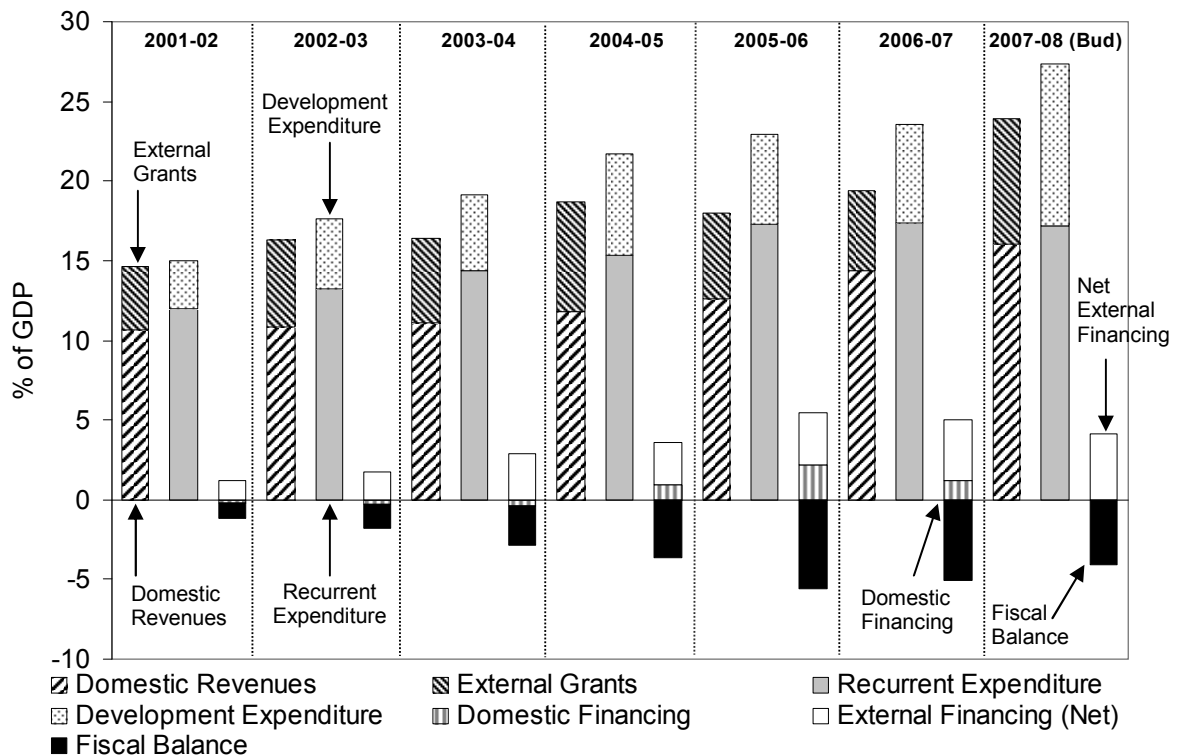
- **domestic revenue mobilization** has increased by 50 percent from 11 percent to 16 percent of GDP;
- **external grants** have doubled as a share of national income from 3.9 percent to 7.8 percent of GDP;

⁵ Figures for 2007-08 are provisional and based on budgeted figures rather than data on outturn.

- **external financing** on concessional terms, has more than trebled from 1.4 percent to 4.1 percent of GDP; and
- **bilateral and multilateral debt relief** has reduced the country's annual external debt servicing obligations by between 0.5 and 1.0 percent of GDP.

Taken together, these factors have allowed government expenditures to increase from 16 to 28 percent of national income over this same period. Despite this rapid growth, current levels of domestic revenues and external aid inflows are not particularly high in comparison with those prevailing in similar countries in the region, which suggest there is scope for further increasing fiscal space along each of these dimensions. The remainder of this section discusses the scope and options for increasing fiscal space in each of the aforementioned areas, to finance an expansion of infrastructure provision.

**Figure 6: Tanzania: Selected Fiscal Indicators
(percent of GDP)**



A. Expenditure Reprioritization and Efficiency

If infrastructure investment is a key development priority, governments should look to ensure that it is given adequate emphasis in their expenditure planning and budgeting procedures. Over the past decade or so, a number of governments in both developed and developing countries looking to alter the intersectoral allocation and the impact of public expenditure have made effective use of two public financial management tools:

- **expenditure reviews:** comprehensive program reviews designed to improve the efficiency of public expenditure and to create fiscal space on the expenditure side of the budget have become a regular feature of the budget process in countries such as Canada, Chile, France, the Netherlands, South Korea and the United Kingdom. **Box 1** discusses the UK experience with using expenditure reviews to put greater emphasis on public investment within their resource allocation process over the past decade;
- **medium-term expenditure frameworks (MTEFs)** which enable governments to “lock in” savings identified in lower productivity/priority sectors and reallocate them to higher productivity/priority sectors over a period of years. MTEFs are now a common feature of budgeting systems in Africa and a number of countries have made effective use of them to alter the sectoral allocation of expenditure over a number of years. For example, in Uganda, the government’s most recent National Budget Framework Paper envisages a real reduction in expenditure on security, justice and governance from 39 percent of the national budget in 2008 to 36 percent in 2011 to allow for a scaling up of pro-poor expenditure on rural development, energy, road infrastructure and human development over the next 3 years.

Tanzania’s annual Public Expenditure Review (PER) and Medium-term Expenditure Framework (MTEF) could provide the basis for strategic prioritization of expenditure within a growing expenditure envelope.

While a lack of comprehensive data on infrastructure expenditure over time prevents one from drawing any definitive conclusions, three observations suggest that increasing the stock of infrastructure has not de facto received adequate priority in Tanzania over the last five years:

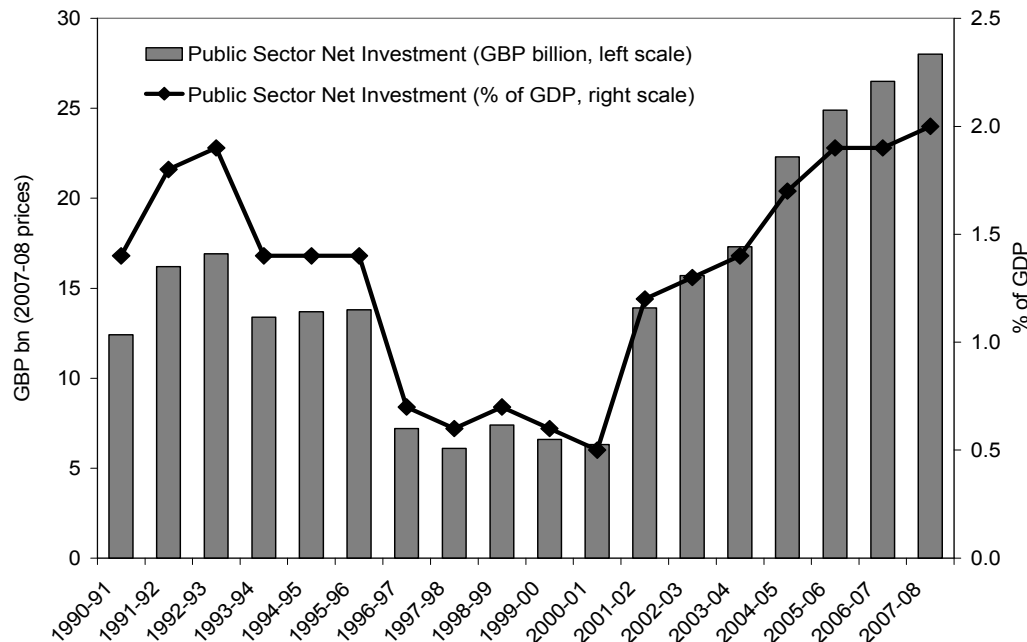
- first, within overall public expenditure, the share devoted to **public investment** (**Figure 6**) (or “development expenditure” as it is classified in the Tanzanian budget) has remained broadly unchanged since 2002-03, and only began to rise in the 2007-08 budget;
- second, within those items of expenditure classed as “priority spending” to achieve the government’s objectives as laid out in the MKUKUTA, the shares of the two items identifiable as **infrastructure** (water and roads) in total spending have not seen a sustained increase since 2000-01 (**Figure 8**); and
- third, while some of the discrepancy may be attributable to differences or errors in the classification of expenditure, as well as to the partial coverage of foreign-financed projects in the budget, the budgetary funds that do flow to the infrastructure sector appears heavily **skewed toward current expenditure** (such as wages and payments for electricity capacity charges) even by the standards of the region (**Figure 2**). While the Commission for Africa (2005) and others have recommended that Sub-Saharan African countries should allocate half of their infrastructure budgets to investment, Tanzania only devotes around 10 to 20 percent of infrastructure expenditure to capital investment.

These trends reflect a lack of alignment between various planning and budgeting instruments (MKUKUTA, MTEF and the annual budget) as well as weaknesses in the budget control and execution. The result is frequent overruns on current budgeted spending in the social sector and in substantial underexecution of capital spending on infrastructure.

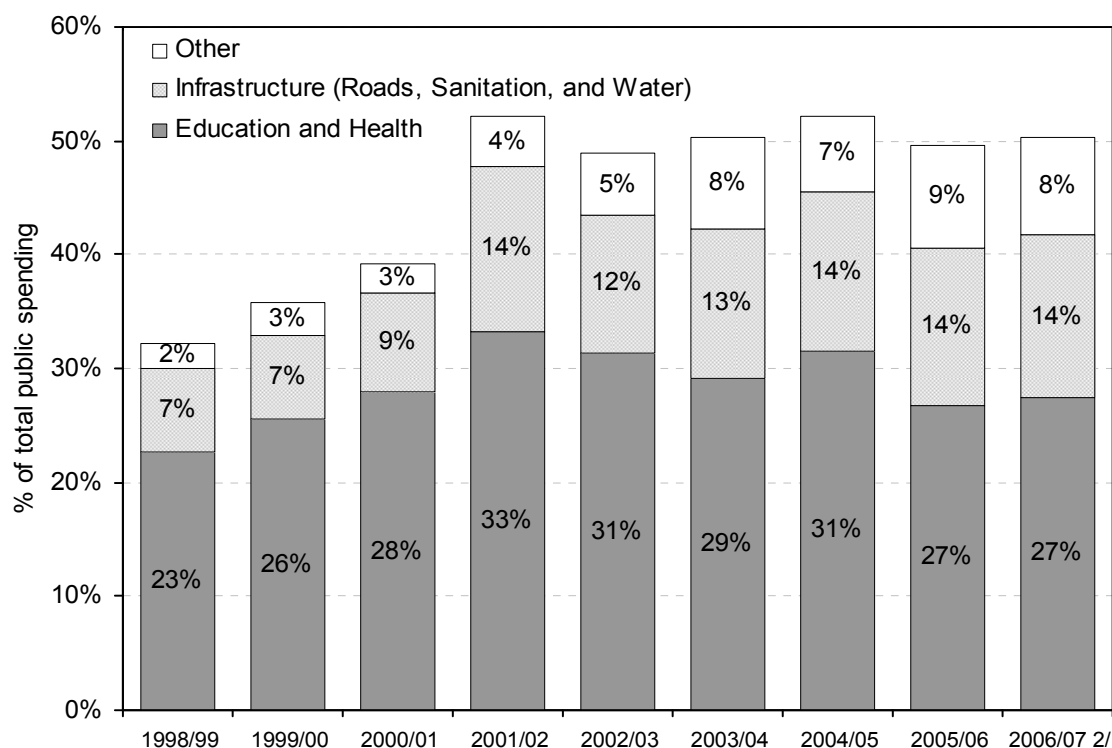
Box 1: Spending Reviews in the United Kingdom

During the macroeconomic and fiscal crises that followed the UK's ejection from the EU's Exchange Rate Mechanism in 1992, public investment bore the brunt of expenditure cutbacks aimed at restoring the public finances to balance. Upon coming to power in 1997, the newly elected Labour government employed a combination of comprehensive spending reviews supplemented by ring-fenced, multi-year capital budgets within each line ministry to rebuild the level of public investment from 0.5 percent in 1998 to 2.25 percent of GDP today. (Figure 7) This additional investment was "paid for" with a sustained reduction the share of public expenditure going on unemployment benefits, government administration and other current transfers.

**Figure 7: Public Sector Net Investment in the UK
(1990/01 – 2007/08)**



Source: HM Treasury Public Finances Databank

Figure 8: Tanzania: Composition of Priority Spending 1/

1/ Priority spending as defined by Tanzania's PRSP

2/ Budgeted figures

Further strengthening of Tanzania's public financial management systems and processes is therefore needed to ensure adequate emphasis is given to recognizing the countries' infrastructure needs in budget preparation and execution. In particular:

- **public infrastructure investment needs to be clearly identified within the budget classification, expenditure monitoring and accounting systems** which should cover both central and local government as well as state-owned enterprises;
- **Public Expenditure Reviews need to become a more integral part of the expenditure allocation process**, with reviews given the explicit objective of prioritizing the infrastructure element of expenditure within and across sectors, with offsetting savings identified in lower priority or less efficient areas;
- the recent initiative to formulate a medium-term public investment plan is very welcome in this regard but this need to be fully integrated into a **more credible MTEF which can provide the basis for the preparation of the annual budget**; and
- **project execution rates need to be increased through improvements to project management and procurement practices** and an enhanced dialogue with the donors who finance a large share of infrastructure investment. The 2004 procurement law and establishment in 2005 of the Public Procurement Regulatory Authority are both positive steps as are the recent audits of procurement practices in spending entities.

B. Domestic Revenue Mobilization

For countries with low levels of domestic resource mobilization, new sources of revenue can also provide sustainable financing for infrastructure expansion. Additional domestic revenue for infrastructure investment can be realized through the introduction of new taxes, expansion of the base of existing ones, improvements in tax administration, and the introduction or expansion of user fees. While the direct earmarking of additional tax revenues to infrastructure reduces budget flexibility and, potentially, allocative efficiency, one tends to find countries resorting to such an approach where there are:

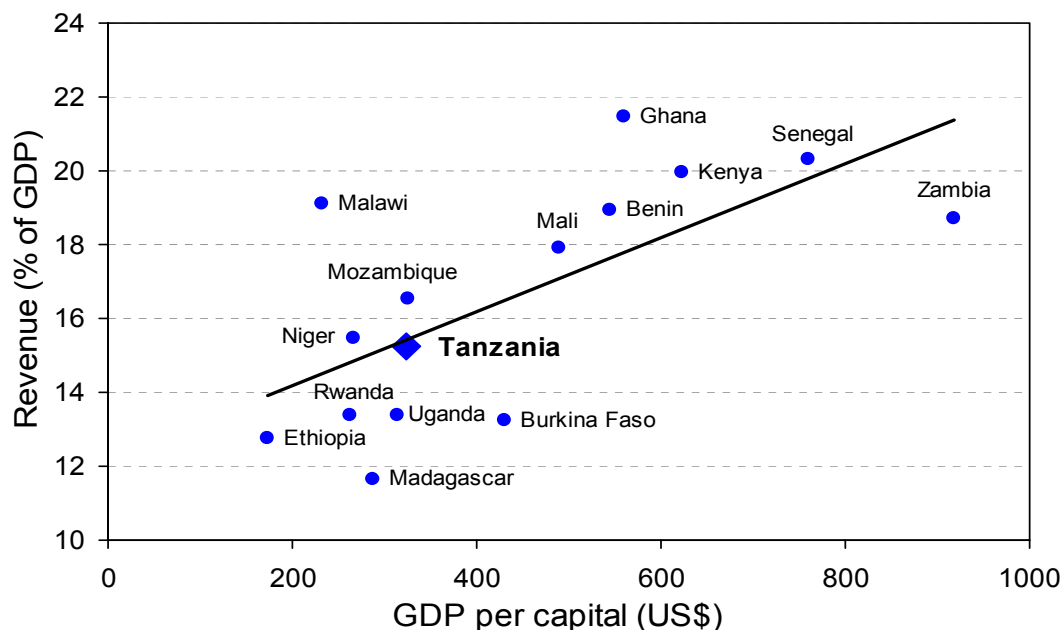
- **institutional weaknesses** which would result in a particular sector being under-resourced if it were funded through the general budget process; or
- **political economy considerations**, such as the need to secure public support for a new transport tax by promising that its proceeds will be reinvested in alleviating congestion.

Across the developed, emerging and developing world, governments are looking to environmental taxes and user fees as a means of mobilizing revenues for infrastructure investment, incentivizing more efficient use of infrastructure services, and protecting environmental resources. Developed countries are making increasing use of targeted transport taxes both to raise revenue for the maintenance and expansion of transport hubs and networks (e.g. air passenger duties) and to address the common pool problems of congestion (e.g. congestion charges) and climate change (e.g. carbon emission permits). In Tanzania and other parts of East Africa, road funds financed through fuel levies and vehicle duties are playing an important role as a sustainable source of financing for road maintenance. However, particularly given rapid growth in revenue from these sources in recent years, governments in all regions need to consider whether the resources raised would be better utilized if they were free to be allocated to other areas.

Tanzania has made impressive progress in boosting domestic tax revenues in recent years and levels of domestic revenue mobilization now compare well with comparable countries in the region. Tanzania has a modern tax system with a limited number of taxes and a broad revenue base. Efforts to strengthen revenue administration have contributed to an increase in domestic revenues from 11 percent of GDP in 2002/03 to 16.8 percent of GDP at end 2007/08.⁶ The contribution of Tanzania's Large Tax Department (LTD) has been particularly notable, and its performance has set a benchmark for similar units being established elsewhere in the region. The Tanzanian Revenue Authority's latest corporate business plan sets itself the objective of further increasing the revenue-to-GDP ratio to 20 percent over the medium-term.

⁶ Figures for 2007/08 are preliminary.

Figure 9: Revenue Mobilization and GDP per Capita in Selected African Countries



There remain opportunities for mobilizing additional tax revenues through improvements in tax policy and administration in Tanzania. Revenue gains are expected to come from further capacity enhancement of the LTD and the implementation of best practices with respect to medium-sized taxpayers. Reforms to the fiscal mining regime currently under study also hold the prospect of revenue gains in the medium-term, as do revisions to the frameworks for non-tax revenues from natural resources such as fishing and forestry. On the excise tax side, the growing fuel levies, transit charges and other fees currently earmarked to Tanzania's Road Fund still only cover around half of the annual maintenance cost of the road network. (Ministry of Infrastructure Development, 2007) However, the World Bank estimates that if current problems with fuel duty evasion could be solved, the resulting revenues would be sufficient to cover not just the maintenance of the existing road network but also some investment in its expansion. (Briceño and Foster 2007).

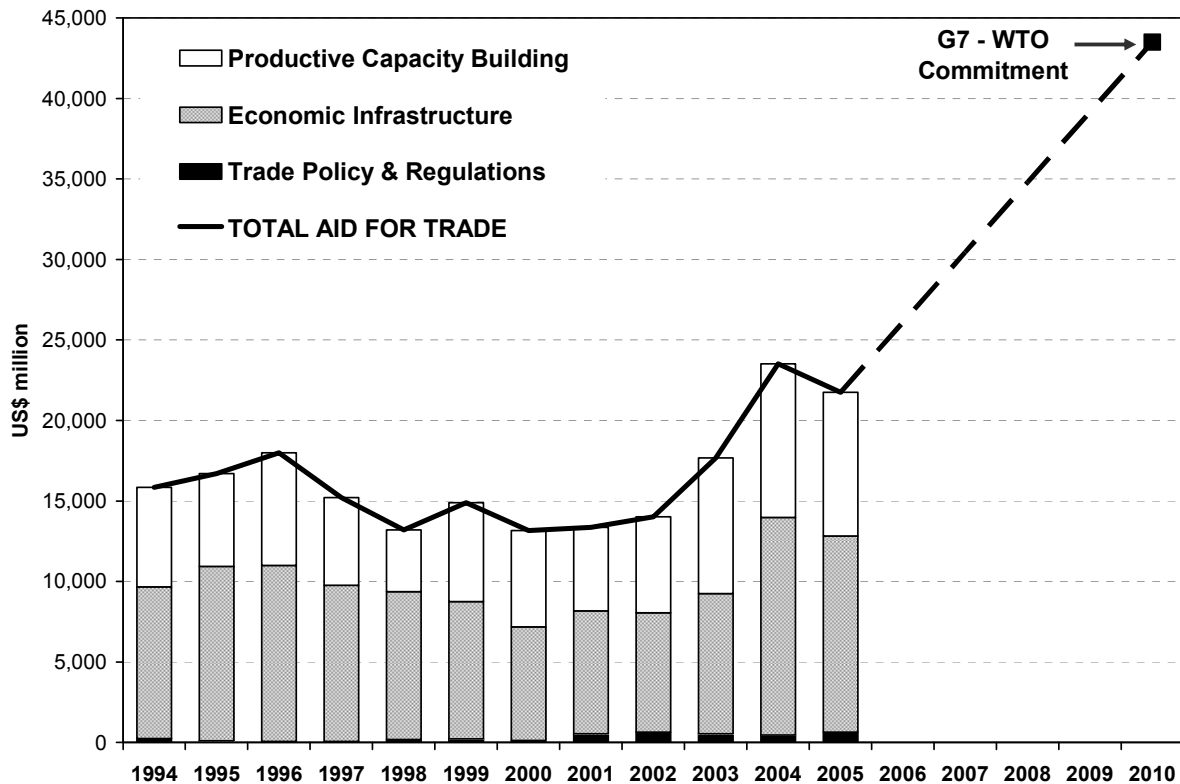
There is also evidence to suggest that Tanzania could make more effective use of user charging for infrastructure services as a means of both raising revenue and incentivizing more efficient use of scarce resources. In order to ensure appropriate incentives for the provision of key infrastructure services and investment in the sector, it is essential that tariffs are established at levels that ensure cost recovery and an agreed rate of return. At the same time, regulators have a responsibility to ensure that public utilities—whether state-owned and managed or leased to private companies via concessions—are operated efficiently to ensure provision of appropriate quality service at least cost.

C. Grants and Concessional Financing

Countries should also exhaust all potential sources of concessional finance before turning to more expensive sources of funding to meet their infrastructure needs.

Discussion of the 2006 staff paper on *Applying the Debt Sustainability Framework for Low Income Countries post Debt Relief* confirmed the view shared by the Executive Boards of the IMF and World Bank that concessional flows remain the most appropriate source of external financing for low-income countries, though exceptions may be appropriate in some cases. While the emphasis on direct support to the social sectors of health, education and social protection during 1990s saw external aid for infrastructure fall from 60 to 30 percent of total official development assistance, the last few years have seen a major resurgence in international assistance for infrastructure development. The OECD's Development Assistance Committee estimates that between 2002 and 2005, total "aid-for-trade" commitments from bilateral and multilateral donors rose by 6.8% per year in real terms, from less than US\$ 15 billion to over US\$20 billion. Within the total volume of aid-for-trade, aid to economic infrastructure represented the largest (54%) and fastest growing (12 percent real) element over this period. At the 2005 ministerial summits of the Group of Seven and World Trade Organization, the bilateral and multilateral donor community committed themselves to a doubling of aid-for-trade to over US\$40bn by 2010 of which a further scaling up of infrastructure assistance is expected to play a major part.

Figure 10: Aid for Trade Disbursements and Commitments



Source: OECD (2006) and OECD and WTO (2007)

Multilateral financing

Among multilateral donors, the International Development Association (IDA), the largest multilateral source of aid-for-trade and the third largest contributor overall after the United States and Japan, is in the midst of a major scaling up of infrastructure support as part of the fourteenth and fifteenth IDA replenishments. The share of IDA credits going to infrastructure has increased from 18 percent to 33 percent over the last decade. Sub-Saharan Africa has been the largest beneficiary of expanded IDA support during this period, increasing its share of IDA-financed infrastructure assistance from 38 percent to 62 percent. Over the next three years, the proportion of IDA resources for infrastructure is expected to increase by a further 15 to 20 percent in nominal terms, from US\$4.4 billion per year to US\$5.3 billion per year, with US\$3.0 billion earmarked for Sub-Saharan Africa. As the country with the highest projected needs among IDA members in Africa, Tanzania is well-placed to take advantage of this scaling up of multilateral financing for infrastructure (IDA 2007)

Bilateral Financing

The use of bilateral credits to finance large scale infrastructure projects has become increasingly common in recent years and major bilateral donors are similarly committed to scaling up their support in this area over the coming years. The United States has committed to double and the UK to treble the amount of trade-related assistance they provide between 2005 and 2010 aid-for-trade. A growing proportion of this support is being channeled through facilities such as the \$365 million Emerging Africa Infrastructure Fund established by the Dutch, British, Swedish and Swiss governments to bring together financing from bilateral, multilateral and private sources to provide long-term debt financing for significant private sector-based infrastructure development projects in the region. In Tanzania the US government's Millennium Challenge Corporation recently committed US\$700 million over the next five years to improve the country's transport network, secure reliable supplies of energy and expand access to safe drinking water. China has recently emerged as a major source of infrastructure finance in sub-Saharan Africa where the estimated value of official Chinese infrastructure finance commitments to the region has increased from around US\$500 million in the early 2000s to over US\$7 billion in 2006 before falling back to around US\$4.5 billion last year (Foster et al. 2008). The use of these financing sources may be fully justifiable from a cost and ease of access perspective, particularly as many of these credits are accompanied by assistance in project management and implementation. It is, however, essential that the terms and conditions associated with these credits are transparent and fully reported and that the loans are fully integrated into the rest of the debt portfolio for debt and risk management purposes.

Given its clearly demonstrated needs and good track record in attracting external support, Tanzania should be well-placed to take advantage of this forthcoming expansion in concessional lending for infrastructure development. Tanzania has been effective in attracting support for external donors, which has more than doubled as a share of

the country's national income from 5 to 12 percent over the last seven years. As the IMF and World Bank's latest Debt Sustainability Analysis concluded (IMF Country Report No. 07/246), Tanzania's future debt sustainability depends on continued access to highly concessional borrowing. Reduction of aid dependence is an important objective for the medium term, but given the scale of the country's development needs, Tanzania should continue welcoming the assistance of the international community in meeting its immediate infrastructure requirements.

At the same time, the rapid scaling up of aid flows poses its own policy challenges for recipient countries trying to manage the impact on the domestic economy. As discussed in Gupta *et al.* 2006), recipient countries need to consider a range of scaling-up scenarios based on how quickly they want to absorb and spend the aid over time and how much of the domestic liquidity impact they want to sterilize via the sale of government securities or foreign currency reserves. Such decisions require close cooperation between donor and recipient countries, and between finance ministries and central banks within recipient countries. Tanzania has made considerable progress in integrating external aid into the general budgeting process, with the proportion of external assistance provided in the form of general budget support rising from less than one-third to over one-half between 2004-05 and 2006-07. Tanzania has also seen the fruits of enhanced dialogue with donors over the past three years in the form of an over 95 percent execution rate for forecasted general budget support. At the same time, further effort is required to strengthen execution rates and budgetary oversight of the one-third of support that is still provided in the form of project aid expenditures of which only a quarter are systematically captured by the country's expenditure monitoring systems – particularly as this would likely continue to play a significant role in aid delivery in the context of scaled-up support for infrastructure.

VI. ADDITIONAL SOVEREIGN BORROWING ON COMMERCIAL CREDIT MARKETS

Once a government has fully explored the potential for reprioritizing expenditure, mobilizing additional domestic revenues, and attracting further external concessional financing, a fourth potential source of fiscal resources are domestic and external private capital markets. Options for raising private finance for infrastructure investment include:

- A. borrowing on **domestic capital markets** by issuing treasury bills and bonds; and
- B. borrowing from **external capital markets** by issuing sovereign bonds.

Should governments be encouraged to “borrow to invest”?

All governments should look upon any proposals for an expansion of sovereign borrowing for any purpose with caution. While the idea that it is acceptable or even desirable to “borrow to invest” may be axiomatic in the private sector, there are a number of reasons to be cautious about unquestioningly adopting such a proposition for the public sector:

- **First**, the definition of investment for government budgeting purposes typically covers all expenditures which creates a durable asset and is not strictly analogous to the financial market concept of investment as any expenditure which generates a future stream of income or value. Public investment therefore includes a range of expenditures that do not necessarily generate a financial return in future (and indeed often entail considerable future costs such as the maintenance of a road or staffing of a prison). Public investment, strictly defined, also exclude other types of expenditure which may well generate an economic return such as "investments" in human capital through the employment and training of teachers;
- **Second**, even if there were a strong empirical relationship between public investment and future economic growth in some countries, one cannot automatically assume that, in the absence of associated reforms to tax policy and administration, future growth will generate the fiscal dividends necessary to repay any initial borrowing;
- **Third**, private investors typically share in the rewards and the bear some or all of the risks associated with their investment choices. In the public sector, project managers are typically prohibited by law from benefiting financially from their professional decisions and can always fall back on the taxpayer if the project cost spiral out of control. Incentives for good project selection and management are inevitably weaker in the public sector than in the private sector; and
- **Finally**, private investors spend large sums of money evaluating different investment opportunities and are free to select those with the highest financial rate of return. By contrast, public investment projects have a much broader range of objectives beyond narrow financial or economic returns, and finance ministries seldom have the time

and resources to invest in sophisticated project appraisals, or the freedom to proceed only with those projects that generate the highest economic and/or financial returns.

Countries such as Tanzania, which have only recently benefited from sovereign debt relief, should be especially wary about jeopardizing their hard-won debt sustainability.

Much of the unsustainable debt burden that sub-Saharan African countries accumulated over the 1970s and 80s was incurred in the name of investing in infrastructure and promoting development. However, the infrastructure projects were ill-chosen, the investment was poorly executed, the networks were not maintained and the development impact proved elusive (Ndulu 2007). Much has been learned from this experience, and the political and institutional complexion of most countries in the region is very different today than during the 1970s and 80s. At the same time, the economic and human toll of the debt crisis of the 1980s and the protracted nature of its resolution should give all former HIPC countries reason to pause before embarking on a path that could subject future generations to a similar fate.

None of this is to say that governments should eschew borrowing on commercial terms for development purposes. Rather it suggests that they should consider any proposals to borrow alongside the institutional, procedural and policy reforms that may be required to ensure that the borrowing has maximum impact and can be readily repaid.

Safeguarding long-term fiscal sustainability

The remainder of this section looks at the range of macroeconomic, microeconomic and financial issues that need to be considered in order to ensure that any expansion in sovereign borrowing for infrastructure investment is consistent with safeguarding Tanzania's macroeconomic stability:

- **first**, governments need to assess the sustainability of their country's **current debt burden** and analyze the consequences of any expansion of sovereign borrowing for **future fiscal sustainability**;
- **second**, governments need to consider any expansion in borrowing within the context of a comprehensive **medium-term strategy for sovereign debt management**;
- **third**, governments need to explore the scope for utilizing **domestic credit markets** as a source of long-term financing; and
- **finally**, governments contemplating accessing **international capital markets** need to consider (i) the fundamental objectives of any sovereign bond issuance: the absorptive capacity of both the (ii) domestic macroeconomy and (iii) the infrastructure sector itself; and finally (iv) the governments' capacity to manage the exchange rate risk associated with substantial holdings of foreign currency-denominated liabilities.

Current debt position and future fiscal sustainability

The scope for expanding sovereign borrowing in Tanzania needs to be assessed as part of a comprehensive analysis of the country's debt sustainability. Thanks to debt relief granted under the HIPC and MDRI initiatives and recent rapid economic growth, the net present value of Tanzania's external debt has fallen from around 70 percent of GDP in the late 1990s to around 15 percent today. With domestic debt levels also around 15 percent of GDP, the total cost of public sector debt service was about 10 percent of domestic revenue in 2006-07. The IMF and World Bank's most recent Debt Sustainability Analysis concluded that Tanzania's overall sovereign debt burden of around 30 percent of GDP appeared sustainable and robust to a range of macroeconomic scenarios. As noted above, this conclusion was contingent upon continued access to borrowing on concessional terms which may be affected by a decision to take on large external obligations at non-concessional rates.

While Tanzania's sovereign debt burden is smaller as a share of national income than that of other countries in the region, decisions about the scale and timing of any such expansion in sovereign borrowing needs to be taken in the context of a revised medium-term macroeconomic and fiscal strategy that is robust and credible. Ghana's decision to issue of a US\$750 million sovereign bond on international markets last year was followed by an announcement this year of the government's intention to introduce a new fiscal responsibility law to shore up the credibility of fiscal policy making and ensure the sustainability of the country's public finances going forward. In the near-term, Tanzania needs to consider the potentially inflationary impact of injecting additional liquidity into the domestic macroeconomy and the appropriate monetary policy response. Over the medium and long-term Tanzania needs to ensure that its fiscal and budgetary frameworks can fully account for and accommodate the additional future risks and obligations that the government is taking on.

If repayment of the additional sovereign borrowing at market rates is to be assured, it needs to be utilized in a manner that ensures a rate of return not only in terms of growth but also of tax receipts. For example, Ghana's sovereign bond issue was made in the context of recent oil discoveries which, once commercially exploited, hold the prospect of significant additional fiscal revenues (including taxes, royalties and direct participation in production) of 3 to 4 percent of GDP over the medium-to-long term. Realizing these additional revenues will be critical to meeting the 8.5 percent coupon payments on the bonds and keeping the country's overall debt burden at sustainable levels. Tanzania cannot at this moment point to such a clear potential source of future revenues against which to borrow. As discussed above, realizing the full revenue potential from infrastructure expenditure will require both structural reforms to the infrastructure sector itself and further improvements in revenue administration. This suggests that caution should be exercised in approaching commercial credit markets before these reforms are in place and that a contingency plan should be ready in case those additional revenues do not materialize.

Medium-term debt management strategy

Whether the additional liabilities are incurred through an external sovereign bond issue, domestic bank lending or PPP arrangements, it is important that the decision is taken in the context of a comprehensive medium-term debt management strategy (MTDS). While Tanzania was one of the first low-income countries to have published an MTDS, this strategy needs to be updated in light of recent macroeconomic, fiscal and financial developments in the country. Most countries update their debt strategies on an annual basis at the very least, in order to reflect changes to the macro environment or market conditions and to ensure that they are consistent with the assumptions made in the wider medium term fiscal framework. **(Box 2)** Tanzania published its first *External Debt Strategy* in 1999 in the context of the launch of the HIPC initiative. This was updated when the country reached the HIPC Completion Point and expanded to cover both external and domestic liabilities in the form of the country's 2002 *National Debt Strategy*. However, since then, the acceleration of economic growth, influx of foreign aid, improved revenue mobilization, deepening of the domestic credit market and granting of comprehensive sovereign debt relief has transformed the landscape for debt management in Tanzania. These fundamental changes of circumstance have yet to be reflected in an updated *National Debt Strategy* which should provide the context and framework for any consideration of an expansion of sovereign borrowing for infrastructure investment.

Box 2: Medium-Term Debt Strategies

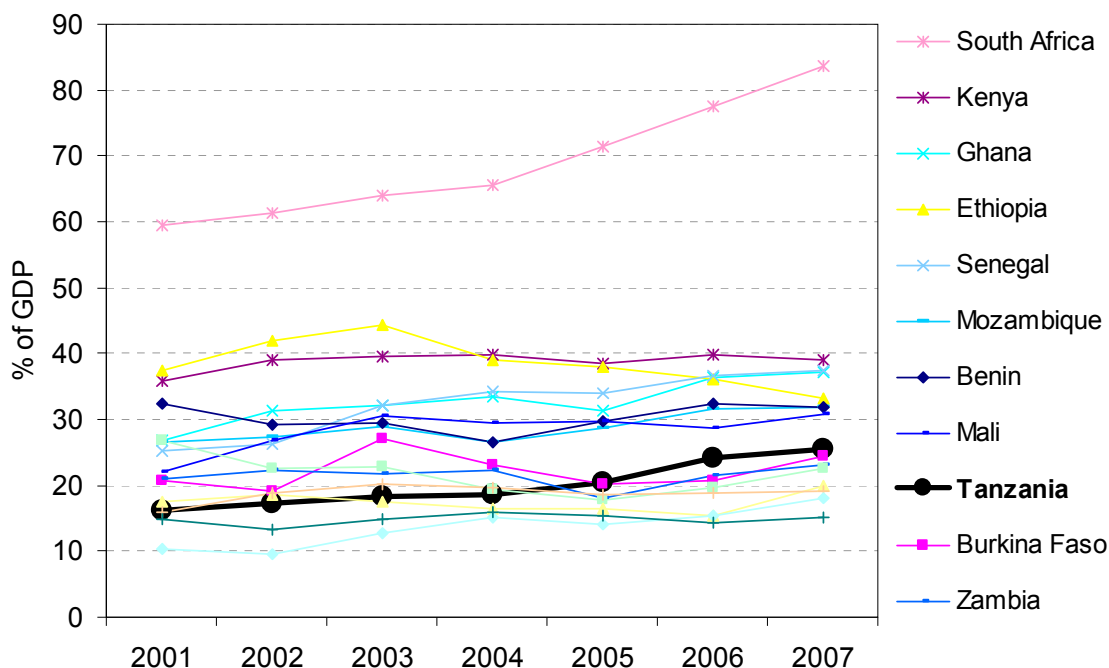
The IMF's recent paper on Sovereign Debt Management recommended that an MTDS should comprise the following key elements:

- i. the government's **strategic objectives for debt management**, including how it proposes to strike the balance between covering its fiscal deficit, filling balance of payments needs, sterilizing foreign currency inflows and developing domestic capital markets;
- ii. an assessment of the **current debt position** and scenarios for future debt dynamics based on different assumptions for key macroeconomic, fiscal and financial variables;
- iii. the **macroeconomic and fiscal context** for debt management, including the government's financing requirements as set out in any medium-term fiscal or budgetary framework that may be in place;
- iv. an indication of the government's desired **portfolio composition** including between concessional and non-concessional terms, external and domestic markets, foreign and domestic currency, fixed and variable interest rates, marketable and non-marketable securities and, long- and short-term repayment periods;
- v. a **financing plan** for the immediate fiscal period under baseline assumptions which also specifies the scope for flexibility in implementation, including ranges for risk indicators within which debt managers can use their discretion to adapt to economic shocks or volatility in fiscal flows such as external aid; and
- vi. a discussion of the **institutional and market-development factors** conditioning the success of the strategy including debt monitoring and reporting systems, and legal constraints.

A. Domestic Capital Markets

Countries contemplating an increase in sovereign borrowing also need to weigh the costs and benefits of borrowing in external versus domestic credit markets. One of the dividends of Tanzania's recent macroeconomic stability have been rising savings rates and financial intermediation, as one can see from **Figure 11** which shows the increase in the ratio of broad money to GDP from 16 percent in 2001 to 26 percent in 2007. At the same time, Tanzania's domestic credit market remains shallow by comparison with similar countries in the region. While the government was able to raise domestic financing of around 2 percent of GDP in 2005/06, this was at the cost of substantial increases in T-bill yields.

Figure 11: Broad Money/GDP in Selected African Countries



Tanzania has made considerable progress in improving the efficiency and absorptive capacity of its domestic credit market – including for domestic treasury bills and bonds.

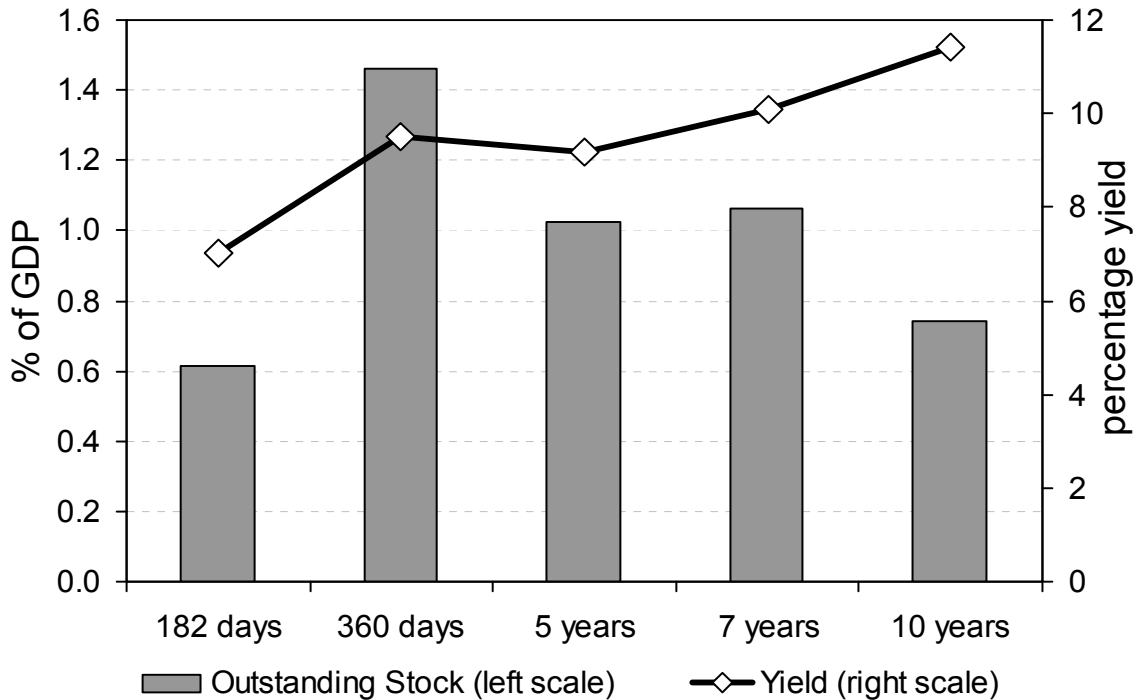
The recent decision by the Bank of Tanzania to reduce the frequency of treasury auctions from weekly to bi-weekly, consolidate maturities around the five most popular and improve the transparency and predictability of auctions have helped to moderate T-bill rates in the last year. Publication of an annual auction calendar and clarification of the rights of foreign institutions to participate in government securities markets through resident commercial banks could help deepen the domestic debt markets, further develop the yield curve and boost prospects of secondary trading in government securities that one finds in neighboring countries such as Uganda and Zambia. Continuation of regular direct dialogue with all stakeholders, including market participants such as banks, insurance and pension companies, can also help with development of the market.

Despite these recent efforts to develop the domestic government bond market, challenges remain in seeking to utilize this market to finance infrastructure investment.

Typically long-term borrowing in large volume is required to fund infrastructure projects. The return on investment for these projects tends to occur over the long-term and therefore long-term borrowing is required in order to match the maturities of assets and liabilities. Using short-term securities to finance long-term investments opens up the possibility of rollover and liquidity risks which, given the scale of many infrastructure projects, would be unacceptably large for a developing country such as Tanzania. Tanzania's government securities have tended to be mainly at the short end of the market, concentrated on T-Bills and some short-term bonds with maturities of one or two years. While efforts to issue longer-

term securities have been successful on a smaller scale, it may prove difficult to raise substantial volumes of long-term debt at the longer-end of the yield curve where the outstanding stock of treasury bonds is low and yields are high. (**Figure 12**) Another consideration is the possibility that large scale borrowing by the government in the domestic market may have the effect of crowding out the private sector and therefore impairing the ability of the real economy to access credit.

Figure 12: Tanzania Treasury Bonds Volumes and Yields



B. External Sovereign Borrowing

Given the limitations of its domestic debt market, it is understandable that Tanzania might turn to external sovereign debt markets as a source of infrastructure finance. The last few years have seen Gabon, Ghana, Mauritius, and the Seychelles all successfully issue US-dollar denominated sovereign bonds on international markets with maturities of between 5 and 10 years and coupon rates of around 8 to 9 percent. However, the current macroeconomic difficulties in some of these countries highlight the risks involved in entering global capital markets. If it is Tanzania's intention to enter the international sovereign bond market, there are a number of issues to be considered, in addition to those highlighted above, when deciding the size, terms and timing of any issuance. **Box 3** summarizes some of lessons from recent experience of other first-time issuers in the region for how to structure any initial sovereign bond offering and the remainder of this section looks at the fiscal policy issues that countries should consider before approaching international bond markets for the first time.

Box 3: Lessons from First Time Bond Issuances

Recent years have seen a number of first-time issuers successfully place sovereign bonds on international capital markets, and 2007 saw the highest ever volume of bond issuance (US\$2.8bn) by African governments. These initial experiences suggest the following lessons for other countries considering entering the market for the first time:

- **Don't issue more than you need:** Larger size bond issues tend to be more liquid and if large enough can enter into the bond indices, both of which are generally attractive to investors and can result in better pricing for the issuer. However, governments should not issue more debt than they require for liquidity purposes, or that can be put to near-term use. Otherwise they can find themselves paying high “carrying” costs and bearing high levels of exchange rate and repayment risk.
- **Chose a repayment structure that minimizes rollover risk:** Small countries and issuers who anticipate going to the markets relatively infrequently should consider an amortizing structure, rather than a single bullet repayment at maturity as a means of reducing refinancing/rollover risks.
- **Don't rush to market:** First time issuers should take time to build potential demand before issuing, by properly introducing the country to international investors through pre-deal roadshows and, obtaining one or two credit ratings before issuance. Patiently building an investor base can help government to issue at lower interest rates than would have been achieved by rushing to market.
- **Choose the lead manager competitively and not just based on fees:** Countries should seek competitive offers from potential lead managers and consider not only the fees they charge but also the attractiveness of their plans for marketing and distributing the new bonds, their commitment to provide market support after issuance, and their willingness to fully or partially underwrite the market risk associated with the issuance.
- **Get a second opinion:** While advice from lead managers is invaluable, first time issuers who have also sought the opinion of independent financial advisors, and/or international financial institutions, have found it beneficial, resulting in most cases in better structured bonds and better deal execution.
- **Be clear about use of proceeds:** If the object of the bond issuance is to pay down expensive government debt or to fund infrastructure projects, demonstrating this to investors can help fetch better terms than countries might get for a bond issue for “general governmental use.”
- **Exploit all potential markets:** Too frequently, issuers who have had sufficient data to satisfy listing requirements for global bonds decided not to list solely on the basis of modest additional cost or additional time to come to market. In cases where there is a potential retail market, this can result in “over pricing” of the issuance.

First, Tanzanian authorities need to consider what their fundamental objectives are in pursuing an international sovereign bond issue and whether these might be pursued more cost-effectively through other means. For example, if the main objective was to raise Tanzania's profile among international investors, a less risky and more effective approach might be through a set of high profile legal or regulatory reforms aimed at moving the country up international competitiveness and transparency ratings, such as the World Bank's *Doing Business Survey*. If the aim was instead to establish a presence and a rating on the sovereign bond market in particular, then the best approach might be a small placement which tested demand and helped Tanzanian debt management authorities to build their capacity in managing external liabilities.

Second, if the main objective of a sovereign bond issue is indeed to raise a large amount of capital for investment in infrastructure, the capacity of the economy to absorb a large and rapid inflow of financing needs to be considered. On the one hand, the impact of the capital inflows on inflation and the real exchange rate is likely to be limited, as the funds will be used mostly on imports such as construction equipment and materials, without a large impact on domestic demand. On the other hand, in the presence of the kind of supply constraints such as one finds in Tanzania, the authorities should consider whether a series of smaller issues rather than one large bond placement would enable them to more effectively match the financing with their spending capacity. For example, Tanzania's first Joint Infrastructure Sector Review (2007) pointed out that a lack of skilled contractors and essential plant and equipment is already constraining the road sector's capacity to cope with the huge increase in funding over the last few years. Borrowing large additional sums without a well developed pipeline of high-return projects ready to be implemented would leave Tanzania government in the position of paying significantly higher interest than they are getting on their investments. Project delays of several years are common among donor-funded infrastructure projects in Tanzania as in other countries in the region. An outstanding external bond issue would raise the opportunity cost of those delays significantly.

Third, the scale and terms of any borrowing needs to be assessed in the light of not only the government's long-term fiscal sustainability but also the economy's future export potential and ability to cope with exchange rate risk. While Tanzania's export performance has improved considerably in recent years, the country's current account deficit is forecast to continue to widen over the next few years as a result of rapidly growing aid-financed imports. If Tanzania proposes to incur substantial future foreign currency-denominated debts, meeting the repayment schedule may require adjustments in the real economy to realize the necessary foreign exchange. Proactive management of foreign currency reserves will be required to meet the additional liquidity risk associated with the need to meet coupon and bullet payments on any foreign-current denominated debt.

While none of the above factors rule out an international sovereign bond issue as a means of raising finance to meet Tanzania's infrastructure and development needs, all argue for caution, patience and careful planning before entering the market.

VII. CONCLUSIONS

There can be little argument that low levels of infrastructure provision in Tanzania are constraining the country's current welfare and future development. Indeed, given its strategic location, one can make a persuasive argument that underinvestment in Tanzania's infrastructure is holding back the growth and development of the whole East African region. Nor is there much doubt that the costs of meeting those needs are very large by comparison with the resources currently available to Tanzanian authorities.

However, it is the very scale of the infrastructure challenge in Tanzania that makes it critical that authorities explore *all available options* for realizing the resources required to respond to this challenge. International sovereign bond issues are not the only or necessarily the best means of creating fiscal space for additional investment in infrastructure. This paper identified scope for increasing fiscal space for infrastructure spending through:

- **encouraging greater private participation** in their sector either through direct investment or public-private partnership arrangements;
- **better prioritizing of expenditure**, including by placing greater emphasis on infrastructure expenditure in the countries PER and MTEF processes, and improving the execution and management of infrastructure projects;
- **further improving in domestic revenue mobilization** through improvements to tax policy and administration, and an expansion of user charging toward cost recovery levels for infrastructure services;
- **maximizing inflows and impact of aid and concessional finance**, including from rapidly growing bilateral sources and current and future rounds of IDA lending; and
- **reforms to sovereign debt management** to deepen and boost the efficiency of domestic credit markets and allow participation of foreign financial institutions.

Once these lower risk avenues have been exhausted, there may be a case for a modest sovereign bond issue if a number of high-return projects remain unfunded. However, experience with first-time issuances by low and middle income countries counsels:

- **patience:** Authorities should not rush to the market but allow time to get adequate credit ratings, chose a lead manager competitively, undertake pre-deal roadshows to build demand, and get a second (or third) opinion about the structuring of the bond and the execution of the deal;
- **prudence:** Authorities should not jeopardize their hard-won debt sustainability by going for a large issue which raises more liquidity than they can put to use in the near-term and leaves them with substantial "carrying costs." Authorities should also structure maturity and repayment terms to minimize refinancing and rollover risk; and

- **planning:** Authorities need to be certain that they have a mature pipeline of infrastructure projects which yield a high rate of return, not just in terms of output but also in terms of tax revenues and foreign exchange. This will require any bond issue to be preceded by significant reforms to public financial management, revenue administration and the governance and regulation of the infrastructure sectors themselves.

VIII. REFERENCES

- Adam, C.S. and Bevan, D.L. (2005) "Fiscal deficits and growth in developing countries," *Journal of Public Economics*, 89, 571-597.
- Aschauer, Alan (1989), "Is Public Expenditure Productive?", *Journal of Monetary Economics*, 23, 177-200.
- Baldacci, E. *et al.*, (2008) "Social Spending, Human Capital and Growth in Developing Countries," *World Development* doi:10.1016/j.worlddec.2007.08.03.
- Barro, Robert J. (1990), "Government Spending in a Simple Model of Endogenous Growth," *Journal of Political Economy*, University of Chicago Press, vol. 98(5), pages S103-26, October.
- Barro, Robert J. and Xavier Sala-i-Martin (1995), *Economic Growth*, (New York: McGraw Hill).
- Bhatia, Bhavna and Neeraj Gupta (2006), "Lifting constraints to public-private partnerships in South Asia", in *Gridlines* No. 6: May 2006.
- Bose, Niloy, M. Emranul Haque & Denise R. Osborn (2007). "Public Expenditure And Economic Growth: A Disaggregated Analysis For Developing Countries," Manchester School, University of Manchester, vol. 75(5), pages 533-556, 09.
- Briceño-Garmendia, Cecilia and Vivien Foster (2007), *More Fiscal Resources for Infrastructure? Evidence from East Africa*, Sustainable Development Department and Africa Region, Washington: World Bank.
- Briceño- Garmendia, Cecilia Karlis Smits, and Vivien Foster (2008), *Financing Public Infrastructure in Sub-Saharan Africa: Patterns, Issues, and Options*, Africa Infrastructure Country Diagnostic, Background Paper 15 (June).
- Burger, Philippe (2008), "PPPs in South Africa" mimeo.

- Calderón, César, and Luis Servén, (2004) *The Effects of Infrastructure Development on Growth and Income Distribution*, Policy Research Working Paper No. 3400, World Bank (September).
- Canning, David and Peter Pedron (2004), *The Effect of Infrastructure on Long Run Economic Growth*, Williams College Economic Working Papers.
- Commission for Africa (2005), *Our Common Interest: Report of the Commission for Africa*, www.commissionforafrica.org
- Dessus, S. and Herrera, R. (2000) “Public Capital and Growth Revisited: A Panel Data Assessment”, *Economic Development and Cultural Change*, 48, 407-418.
- Devarajan S., Swaroop V., and Zou H. (1996), The composition of public expenditure and economic growth, *Journal of Monetary Economics*, 37, 313-344.
- Eifert, Benn, Alan Gelb, and Vijaya Ramachandran (2005), “Business Environment and Comparative Advantage in Africa: Evidence from the Investment Climate Data”. Center for Global Development Working Paper No. 56 (February).
- Estache, Antonio (2005), *What do we know about Sub-Saharan Africa’s Infrastructure and the Impact of its 1990s reforms?* Working Paper for the Conference on Private Participation in Infrastructure in Sub-Saharan Africa (September).
- Foster, Vivian, William Butterfield Chuan Chen and Nataliya Pushak (2008), *Building Bridges: China’s Growing Role as Infrastructure Financier for Sub-Saharan Africa*, Infrastructure: Trends and Policy Options No 5 (July).
- Estache, Antonio (2006), “Africa’s Infrastructure: Challenges and Opportunities”, Paper presented at IMF Institute and Joint Africa Institute Seminar on *Realizing the Potential for Profitable Investment in Africa* in Tunis, Tunisia on February 28, 2006.
- Farlam, Peter (2005), *Working Together: Assessing Public–Private Partnerships in Africa*, NEPAD Policy Focus Report No 2, South African Institute of International Affairs.

- Flyvbjerg, Bent (2005) *Policy and Planning for Large Infrastructure Projects: Problems, Causes, Cures*, World Bank Policy Research Working Paper No. 3781 (December).
- Foster, Vivien, William Butterfield, Chuan Chen and Nataliya Pushak (2008), "Building Bridges: China's Growing Role as Infrastructure Financier for Africa," *Infrastructure: Trends and Policy Options Number 5* (Washington: World Bank and Public-Private Infrastructure Advisory Facility).
- Global Competitiveness Report* (2007-08) at <http://www.gcr.weforum.org/>
- Gratwick, Katharine Nawaal and Anton Eberhard (2008), "An Analysis of Independent Power Projects in Africa: Understanding Development and Investment Outcomes." *Development Policy Review*, Vol. 26, No. 3, pp. 309-338.
- Gupta, S., Clements, B., Baldacci, E. and Mulas-Granados, C. (2005), Fiscal policy, expenditure composition, and growth in low-income countries, *Journal of International Money and Finance*, 24, 441-463.
- Gupta, Sanjeev, Robert Powell and Yongzheng Yang (2006), *Macroeconomic Challenges of Scaling Up Aid to Africa: A Checklist for Practitioners* Washington: International Monetary Fund.
- Guash, J. Lewis (2004), "Granting and Renegotiating Infrastructure Concessions: Doing It Right" World Bank Institute Development Studies (Washington: World Bank).
- Hadi Salehi Esfahani and Maria Teresea Ramirez, 2003, "Institutions, Infrastructure and Economic Growth," *Journal of Development Economics*, No. 70: 443-77.
- Haque, M. Emranul & Richard Kneller (2008). "Public Investment and Growth: The Role of Corruption," Centre for Growth and Business Cycle Research Discussion Paper Series 98, Economics, The University of Manchester.
- Harris, Clive (2003) *Private Participation in Infrastructure in Developing Countries: Trends, Impacts, and Policy Lessons*, World Bank Working Paper No. 5 (Washington: World Bank).

- Heller, Peter (2005) "Understanding Fiscal Space", IMF Policy Discussion Paper 05/04 (March).
- Holtz-Eakin, Douglas and Schwartz, Amy Ellen (1995), "Spatial Productivity Spillovers from Public Infrastructure: Evidence from State Highways" (February). NBER Working Paper No. W5004.
- Available at SSRN: <http://ssrn.com/abstract=225783> International Development Association (2007), "Role of IDA in Infrastructure: Background Note", Washington; World Bank (May).
- International Monetary Fund and the World Bank (2006), *Applying the Debt Sustainability Framework for Low-Income Countries Post Debt Relief*, Board Paper, Washington.
- King, Robert G & Rebelo, Sergio, 1990. "Public Policy and Economic Growth: Developing Neoclassical Implications," *Journal of Political Economy*, University of Chicago Press, vol. 98(5), pages S126-50, October.
- Ministry of Infrastructure Development (2007), *First Joint Infrastructure Sector Review (Transport and Communications)*, Government of Tanzania.
- Ndulu, Benno J. (2006) "Infrastructure, Regional Integration and Growth in Sub-Saharan Africa: Dealing with the Disadvantages of Geography and Sovereign Fragmentation," *Journal of African Economies*, Vol. 15, AERC Supplement 2: 212-244.
- Ndulu, Benno J. (2007), *Challenges of African Growth: Opportunities, Constraints, and Strategic Directions* (Washington: World Bank).
- Organisation for Economic Cooperation and Development (2006) *Aid for Trade: Making it Effective*, Paris: OECD.
- Organization for Economic Cooperation and Development and World Trade Organization (2007), *Aid for Trade at a Glance: First Global Review*, Paris: OECD.
- Segura-Ubiergo, A., Simone, A. and Gupta, S. (2006) *New evidence on fiscal adjustment and growth in transition economies*. IMF Working Paper No. WP/06/244.

Shepherd, Robert, Stephan von Klaudy, and Geeta Kumar (2006), "Financing Infrastructure in Africa: How the Region Can Attract More Project Finance" in *Gridlines* No 13: 1 (September).

Solow, Robert M. (1956) "A Contribution to the Theory of Economic Growth." *Quarterly Journal of Economics* 70 (February): 65-94.

Straub, Stéphane (20086), *Infrastructure and Growth in Developing Countries: Recent Advances and Research Challenges*, Policy Research Working Paper No. 4460 (Washington: World Bank).

SSATP (2007) *Sub-Saharan African Transport Policy Program Annual Report*. (Washington: World Bank).

Tanzi, Vito and Hamid R. Davoodi (1997), *Corruption, Public Investment, and Growth* (October). IMF Working Paper No. 97/139.

World Bank (2007a), *Africa Development Indicators 2007* (Washington: World Bank)

World Bank (2007b), *Connecting to Compete: Trade Logistics in the Global Economy* (Washington: World Bank).

World Bank (2007c), *Fiscal Policy for Growth and Development: Further Analysis and Lessons from Country Case Studies*, Paper for IMF/World Bank Development Committee: DC2007-0004 (March).