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# Addressing the Challenge of HIV/AIDS: Macroeconomic, Fiscal and Institutional Issues

By Maureen Lewis

**Abstract**

After decades of neglect the HIV/AIDS epidemic has rightly become one of the highest priorities on the global agenda. Funding pledges from the donors have doubled resource commitments between 2002 and 2004 to over $6 billion. That surge in funding belies the volatile nature of contributions to HIV/AIDS initiatives at the country level. The paper analyzes the impacts of abrupt HIV/AIDS funding on macroeconomic stability, fiscal health and the development of health institutions. The macroeconomic effects are ambiguous, but depend on the overall level of aid flows, as well as those for HIV/AIDS, the management of foreign exchange inflows, and effective spending policies. The fiscal ramifications revolve around the jump in external funding that reached around 1000% in Lesotho and Swaziland, and 650% in Zambia between 2002 and 2004, and the required rapid scale up if resources are to be used productively. At the same time, the new HIV/AIDS monies are swamping public health budgets in some cases exceeding 150% of the government's total allocations for health. The vertical HIV/AIDS programs and the set aside funding threaten to undermine the very institutions that will need to carry forward the long term HIV/AIDS prevention and treatment agenda for each country. Health systems are already fragile, and governance problems and uneven productivity compound the challenges. Health institutions require funding and attention to strengthen them in the fight against HIV/AIDS.

While the committed funds are desperately needed, solutions to the dilemma will require creative options to ensure the flow of funds, manage the economic implications and ensure effective service delivery. These are explored in the concluding section.

**CGD Working Paper**

# Addressing the Challenge of HIV/AIDS: Macroeconomic, Fiscal and Institutional Issues*

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## I. Introduction

HIV/AIDS has become the scourge of the times, taking the lives of children and young adults, especially women, and leading to dramatic declines in life expectancy. After decades of neglect the epidemic has become one of the highest priorities on the global agenda. Prevention through behavioral change has proved difficult in many settings and a vaccine remains elusive. The loss of a large segment of prime-age adults, particularly women, devastates households, especially in the short term. Long-term losses in human capital formation pose a further risk by influencing the intergenerational transfer of knowledge and creating macroeconomic threats, particularly in the most deeply affected countries of sub-Saharan Africa (Bell, Devarajan and Gersbach, 2004). Halting transmission of this highly adaptable virus continues to prove elusive, which means that the possibility of an escalation of the epidemic in settings where it has not yet become a generalized epidemic remains a serious concern, particularly the Former Soviet Union (notably Russia) and South and East Asia.

Though lower prices have reduced, and continue to reduce the cost of treatment, the issue of cost is itself dwarfed by the operational challenges of expanding access to treatment, while developing and delivering services of sufficient quality and sustainability to avoid unleashing new, drug-resistant strains of the virus. Governments face an enormous list of implementation challenges whose scale and complexity make prioritization politically, as well as managerially, difficult (Ainsworth and Teokul, 2000).

Rapid increases in the funds now available for HIV/AIDS, though long awaited, also raise some broader issues. Although the scale of the epidemic, the available domestic resources, and the support from the international community differ very substantially across countries, and it is necessary to carefully consider the particular circumstances in any country, it is possible to identify some key questions: For countries receiving substantial amounts of HIV/AIDS funding, can these flows be so large as to have negative effects on macroeconomic stability or fiscal management? Can low-income countries effectively utilize the massive amount of resources required, or even the amounts already pledged and committed? Institutional capacity and governance problems often plague health care systems in developing countries, making absorption of new funds problematic. What of other complementary investments that improve access to information and services and may prove critical to effective policy? These issues raise concerns, and some evidence has emerged recently that sheds light on some of them. This paper explores the issues and the evidence and offers a set of actions that can help address some of the emerging challenges.

## II. Funding HIV/AIDS Programs

The United Nations Joint Program on HIV/AIDS (UNAIDS), along with its co-sponsoring members, is leading the effort to define the resource needs for HIV/AIDS prevention and treatment, and ensure adequate financing from public and private sources (UNAIDS, 2004). The latest UNAIDS estimates of the costs of a comprehensive response to HIV/AIDS suggest that between $9.6 billion and $11.3 billion would be required in low- and middle income countries in

2005, rising to between $14.1 billion and $18.8 billion by 2007 (UNAIDS, 2005).[1] These numbers relate to total HIV/AIDS-related spending in low-and middle income countries of about $6 billion in 2004, including an estimated $3.7 billion from international sources (OECD 2005), and about $7 billion allocated annually to overall development assistance (ODA) for health.

Six funding streams support the financing of HIV/AIDS programs: (i) domestic public spending; (ii) bilateral assistance; (iii) multilateral agencies such as the World Bank; (iv) the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria (GFATM), which is financed by bilateral donors and also private foundations, such as the Gates and Clinton Foundations; (v) the private sector, including philanthropic donations; and (vi) household out-of-pocket spending. Bilateral assistance is projected to grow faster than the other sources, primarily as a result of the commitment of $15 billion by the United States for 15 priority countries over five years under the President's Emergency Plan for HIV/AIDS Relief (PEPFAR). The GFATM is anticipated to be the second most significant source of funding.

Figure 1 summarizes trends in the resources available for HIV/AIDS. Both the number of sources and the levels of commitment show rapid increases, which together are closing in on estimated resource needs. Funding is heavily concentrated in a relatively small number of countries. Donors are supporting activities in 140 countries, but about 72 percent of this funding is allocated to 25 countries, mostly in the highly affected countries in Africa and the Caribbean (OECD, 2005). The alignment of allocations and HIV/AIDS prevalence align have resulted in rapid growth of funding in those countries. Indeed, concentration of funds is beginning to overwhelm health budgets in high HIV/AIDS- incidence countries, as discussed further below.

The rapid inflow of resources puts pressure on countries to effectively absorb new money, often in sectors that are institutionally ill-equipped to disburse funds rapidly and effectively. Frequently, the primary institutions in charge of implementing HIV/AIDS-related policies or measures have neither the authority nor the access to decisionmaking so as to effectively integrate their requirements into national policymaking and budget allocation. Spending has been halted in a number of countries for a variety of reasons stemming largely from their marginalization in policymaking. The pressures on ministries of health are particularly great.

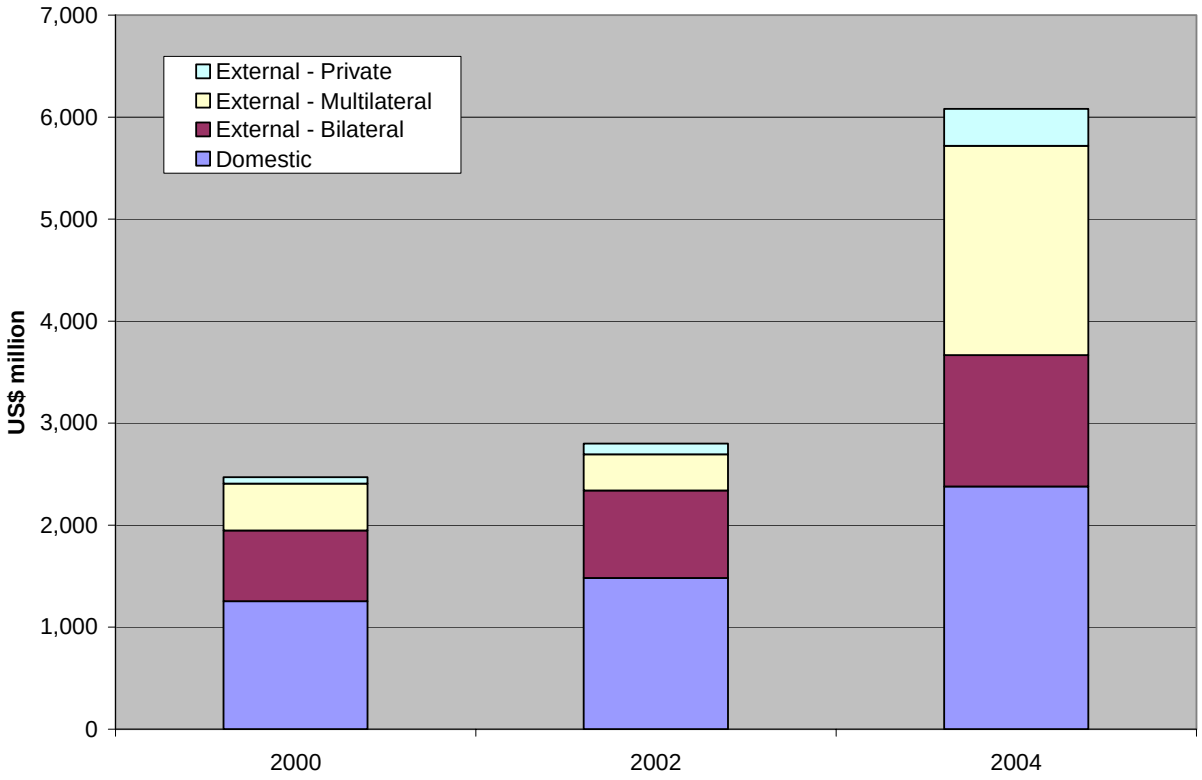
Rapid aid inflows may also imply high donor involvement, particularly where external sources provide the bulk of public health funding. In such contexts, donors have shown a penchant for off-budget aid and for "vertical" public health programs that attack specific diseases (e.g. TB, HIV/AIDS, immunizations) and are divorced from the health system. Both strategies may achieve quick results, but bypass orderly budgeting and allocation processes of the government, and isolate the investments of donors. Together these contribute to delays in much-needed institution building in the health sector.

Within the multi-sectoral response to HIV/AIDS, ministries of health (MOHs) play a key role, retaining direct responsibility for the public health sector, regulating the private health sector, and becoming an interlocutor for other sectors that take responsibility for some aspect of

[1] The lower estimates reflect estimates of what would be feasible, given actual rates of scale-up on the country level. The higher estimates are based on a scenario which envisages rapid investments to overcome existing capacity constraints.

HIV/AIDS interventions. Where other ministries for transportation or women take on responsibility for addressing the epidemic, the MOH remains a needed partner. Whether the HIV/AIDS-related services are implemented by the public sector or the private sector (including NGOs), it is important to take into account that these providers draw on the same domestic resources, including skilled labor such as physicians, nurses, managers and administrators that are typically scarce in low-income countries. Even if the response to HIV/AIDS is in large part implemented by the private sector, the public sector will thus need to compete with increasing demand in the private sector for the same sets of skills through wage hikes or other incentives that make public service attractive.

**Figure 1.**
**Trends in HIV/AIDS Financing by Source: Developing World Total**




Note: Figures for private sector only reflect international NGOs. Domestic financing includes public and private sources but not household spending.
Source: OECD (2005).

The challenge of financing HIV/AIDS is thus two-edged: responding to the level of financial requirements, and second, ensuring that the very large amounts of resources being made available are quickly and effectively absorbed. The latter issue will be addressed further below.

## III. The Fiscal and Macroeconomic Effects of Increased HIV/AIDS Funding

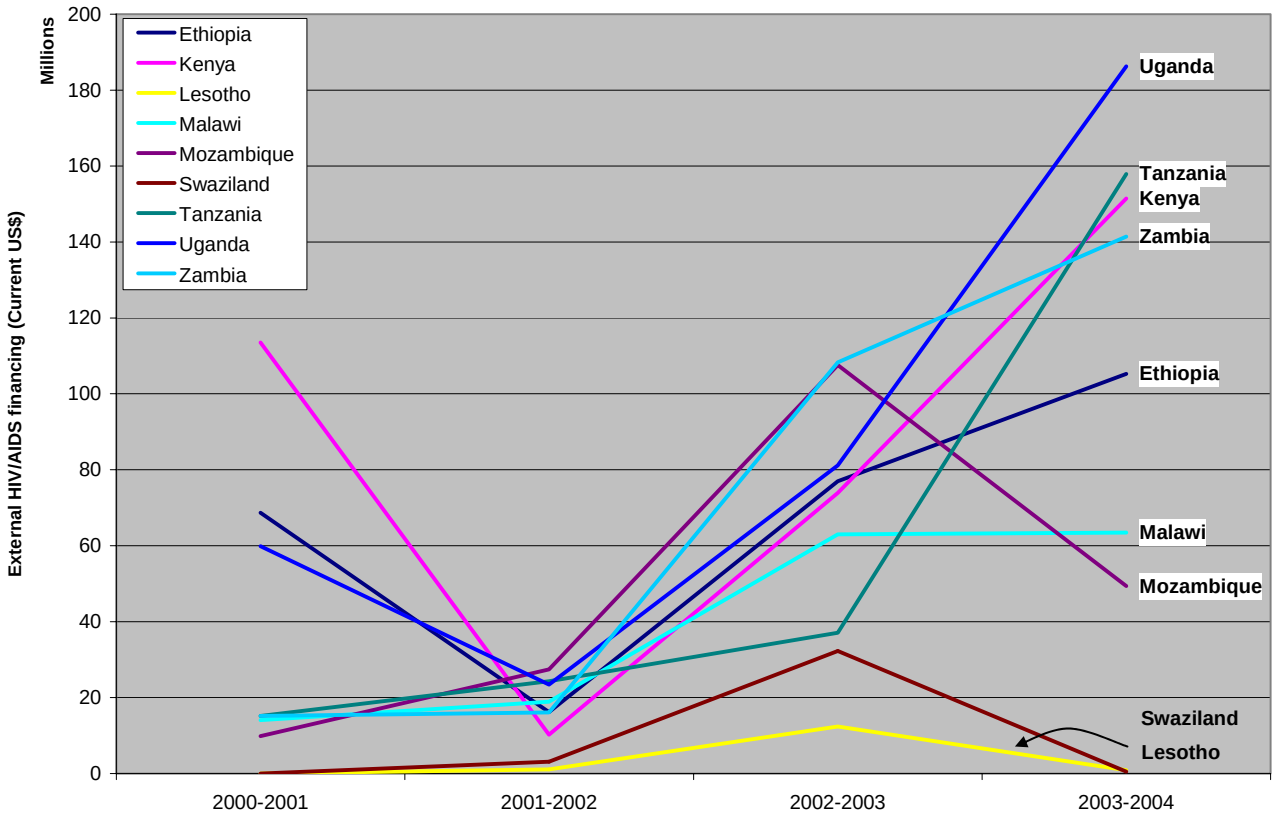
The funds to fight HIV/AIDS are needed, adults and children in Africa are dying at the rate of 7,000 per day for lack of treatment due to the cost of therapies, prevention is lagging, so why are

large funding responses a problem? The HIV/AIDS community has challenged the notion that funds are problematic, arguing that the needs are so great and the resources paltry given the magnitude of the problems facing the hardest hit African countries (Burkhalter, 2004; ActionAid et. al., 2004). However, from the perspective of fiscal or macroeconomic management, the issue is not only the apparent need, but also the overall repercussions on the economy, and the need to balance investments that promote growth as well as human capital development, and the effectiveness of government spending. Fundamentally it is an issue of using aid so that the funds are allocated optimally and the negative externalities minimized.

The strong international response to HIV/AIDS can be seen at the country level in some of the hardest hit sub-Saharan African countries. Figure 2 shows the annual trend in external funding commitments for HIV/AIDS for 9 African countries for the 2000-2004 period. The funding comprises bilateral and multilateral commitments as well as those from the GFATM. The overall trend in resources climbs over the four years for most of the countries (with the exception of a decline in aid for Lesotho, Swaziland and Mozambique in 2003/04). The dramatic rise between 2002/03 and 2003/04 for Kenya, Tanzania and Uganda – and to a lesser extent, Ethiopia and Zambia – can be attributed in part to the launch of the US PEPFAR program in each of the countries, which comes on the heels of scale-up efforts by others.

To smooth the trends and compare the net increases in external flows between 2000 and 2004 the average level of funding received over 2000-2002 and 2002-2004 is compared for each country

**Figure 2.**
**Trends in External HIV/AIDS Funding Commitments for Selected African Countries, 2000-2004**

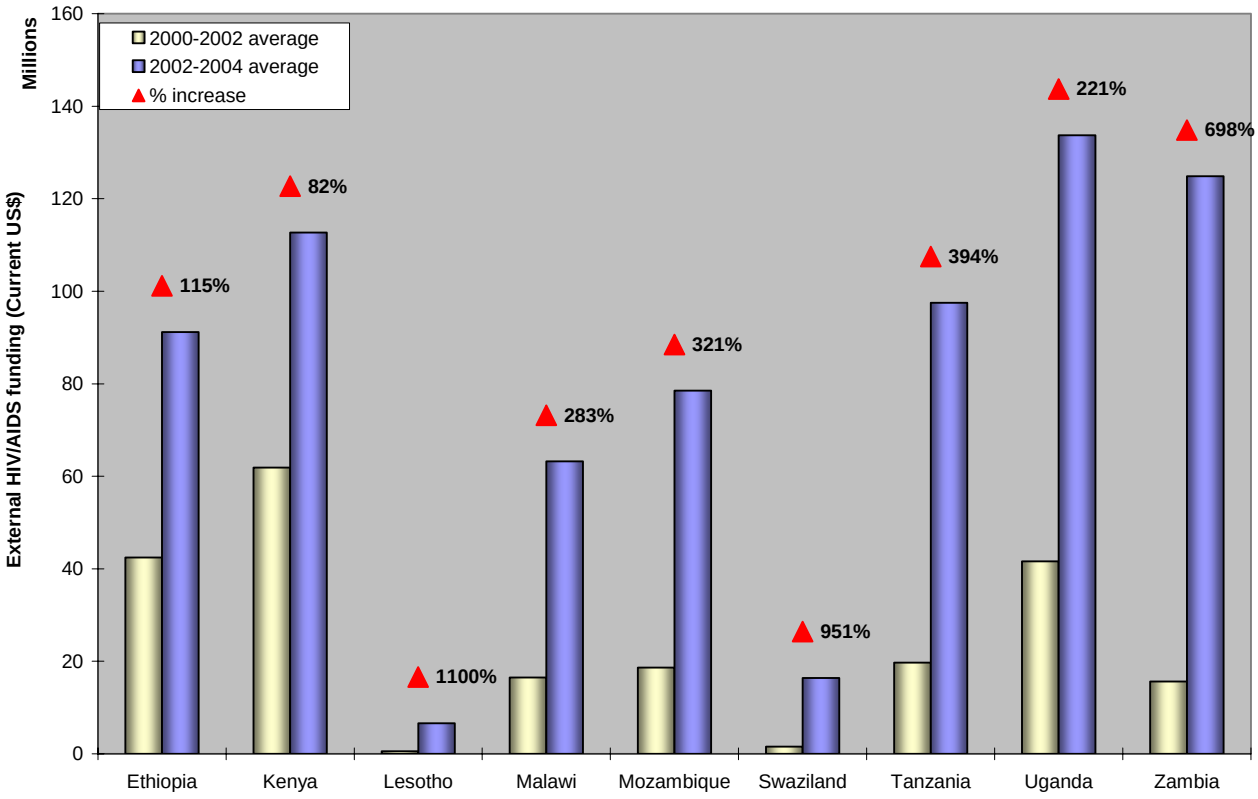


in Figure 3. External funding increased significantly in Lesotho, Swaziland, Tanzania and Zambia, with Tanzania experiencing an almost 400 percent increase and Zambia nearly 700 percent. Only Kenya saw less than a doubling of aid for HIV/AIDS, and it was the country with the largest external commitments over 2000-2002. The biggest increases, however, were in the small countries, Lesotho and Swaziland, that had received only modest flows in the earlier period. Funding for each rose by around 1000 percent over 2002-2004.

The sharp increases suggest the need for a rapid scale up in health care activities to effectively use the new funding. These aid flows may or may not be of a magnitude to have macroeconomic implications, but they certainly raise issues of government priority and institutional capacity. On the macroeconomic side the size of HIV/AIDS flows relative to total aid flows is relevant. HIV/AIDS represented between 5 percent and 35 percent of overall aid flows to the 9 countries over 2002-2004 (OECD, 2005). These limited proportions suggest that HIV/AIDS funding alone is unlikely to derail overall macroeconomic policy, although it could conceivably exacerbate macroeconomic problems associated with large aid flows. However, if overall official development assistance (ODA) rises quickly as the result of increased amounts for HIV/AIDS, this could create some policy issues, not only regarding the increased aid flows (an issue discussed in more detail below), but also regarding the implications for government policy priorities and budget allocations.

Because HIV/AIDS monies typically require some "collateral" domestic resources, such as labor, infrastructure and complementary inputs, and the institutional base to rapidly scale up

**Figure 3.**
**Changes in External HIV/AIDS funding for Selected African Countries, 2000-2004**



those services, issues of sustainability of funding and the availability of matching public resources become major concerns for the government. This applies in particular as HIV/AIDS monies are geared towards a few sectors, most notably the health sector, and some of these complementary inputs (such as trained health personnel) are limited in the short run.

The following sections outline the evidence surrounding the impact of increasing aid flows and the implications for macroeconomic, fiscal and health policy.

## A. Macroeconomic Effects of Large Aid Inflows

The available evidence on the macroeconomic effects of large aid flows is somewhat ambiguous. The evidence base is modest, and country circumstances appear to play a major role in determining the impacts. Heller and Gupta (2002) use the proposed tripling of ODA to reach the target of .7 percent of OECD's country as a basis for analyzing the likely macroeconomic and fiscal effects of big increases in aid flows. Their results are relevant to the issue of HIV/AIDS.

The macroeconomic effects obviously depend on the size of the economy and on the level of imports, with smaller economies being more vulnerable to the external environment. However, the larger the aid dependence relative to GDP, the greater the vulnerability to unanticipated shifts in donor flows. Major macroeconomic risks include appreciation of the exchange rate, sustainability of aid flows, inflation and absorptive capacity. The latter stem from inadequate capacity, aid dependence and weak accountability (Heller and Gupta, 2000).

Of these effects, the potential appreciation of the exchange rate and inflationary tendencies are closely related. As an illustration, suppose that aid is spent either on domestic services (say, doctors) or imported goods (say, drugs). In the former case, the domestic demand for labor rises, which will result in an increase in wage rates and thus inflation. At the same time, there is an upward pressure on the exchange rate, as the inflow of foreign currency is not offset by a corresponding increase in the demand for imports. As a result, there is an excess supply of foreign currency (and excess demand for domestic currency), resulting in an appreciation of the exchange rate. Alternatively, if the external aid is spent on imported drugs, there is little effect on domestic demand (and thus no inflationary impact), and – as the incoming funds are used to purchase imported goods – there is no net effect on the current account and hence no pressure on the exchange rate.[2]

Thus, large increases in aid have the potential for leading to an appreciated exchange rate and a drop in exports, which can compromise economic growth. Between 1995 and 2000 Uganda's ODA grants grew by 3.5 percent of GDP, and despite prudent fiscal management, exchange rate appreciation led to dampened exports, a phenomenon known as Dutch disease.[3] Moreover, the

[2] It is important to stress that it should not be concluded from this illustrative example that aid should be spent predominantly on imported goods. The ultimate criterion is whether aid is used effectively, and this requires some optimal mix of domestic and imported services or goods. Some of the criteria that affect this optimal mix are discussed elsewhere in this paper.

[3] The origins of "Dutch disease" emanated from the experience of the Netherlands in the 1960s, when oil was first discovered. The sudden infusion of foreign exchange led to an appreciation of the exchange rate and a decline in competitiveness and exports.

Central Bank was unable to sterilize adequately to compensate for the foreign exchange increases. As a result of this and other factors, growth slowed, at least in the short run.

Based on a theoretical model of aid and public expenditures, Adam and Bevan (2003) analyze a complex set of effects due to increased flows in small developing countries. Their simulations for Uganda suggest that an increase in net aid in any sector will lead to a rise in the exchange rate, a drop in exports, and a decline in rural incomes in the short run – the classic Dutch disease effects, but a possible reversal in the long run, so long as aid is not devoted to recurrent government expenditures. By contrast, high inflows appear not to have resulted in Dutch disease problems in Ethiopia, and some recent empirical studies have found inconclusive results between aid and exchange rate shifts (IMF, 2005a; 2005b).

Regarding the potential effects on inflation, economic theory suggests that the rise in new monies leads to an increase in demand for domestic goods and services, driving up prices. Policy guidance is mixed here. Ghana, despite sound economic policies, reportedly faced persistent inflation stemming from a 4 percentage point increase in aid over a four year period starting in 1984. Despite fiscal surpluses and tight credit policies, inflation remained at around 30 percent (Younger, 1992).[4]

More recent experience has demonstrated that the government can mitigate these negative effects through creative policies. Ghana experienced another surge in aid flows in 2001, which in hindsight was a blip rather than the start of an upward trend. This time fiscal policy was restrained, and instead of spending the funds the government effectively "saved" the increase in aid through gross reserve accumulation by the Central Bank. Ghana avoided real exchange rate appreciation and inflation. Thus the negative effects of sharp, temporary aid increases were effectively managed by selling the foreign exchange (so as to sterilize the monetary impact) increasing the reserves and continuing a prudent fiscal policy of modest government spending (Berg, 2005). Berg characterizes this as "aid (mostly) absorbed and not spent" and contrasts this with the classic case of "aid absorbed and spent", as was the case in the 1980s where aid flows expanded public spending and macroeconomic management was unable to contain price escalation.

Despite the experience of Ghana, the more common pattern is for governments to ratchet up spending based on aid inflows, thereby making them permanent commitments of government (McGillivray and Morrissey, 2001). In the case of HIV/AIDS, the magnitude of the aid is such that governments would be hard-pressed to fill the financing gap when aid flows decline. The experience of aid volatility suggests that governments can overexpose themselves by expanding public programs when donor funds are available, but are not afforded when the aid funds cease causing programs to contract.

The implications of these macroeconomic effects for HIV/AIDS contain some unique elements. First, the option of saving and not spending the funds in the year of allocation is difficult to achieve in cases where funds are effectively earmarked and timely disbursements both expected and tracked, as is generally the case for HIV/AIDS programs. Besides, putting aside these funds

[4] A similar result was found for Pakistan using a general equilibrium model (Vos, 1998).

would effectively negate the purpose of this aid, as it is intended to assist governments in rapidly scaling up the response to HIV/AIDS. But because money is fungible, governments could achieve the same outcome if they allocated away from other spending priorities to HIV/AIDS to substitute for external funds earmarked for HIV/AIDS programs, thereby mitigating inflationary pressures. Second, the broader literature on macroeconomic effects of aid suggests that the negative short run economic effects can be reversed in the longer run, if aid is invested effectively and eventually enhances the productive capacity of the economy. Although HIV/AIDS funding is largely earmarked for recurrent expenditures, such as anti-retroviral therapy (ART) services, there is a similar effect at play here. As antiretroviral treatment improves the health and prolongs the life of those receiving it, HIV/AIDS-related productivity losses are mitigated. This, in turn, would offset some of the inflationary pressures associated with higher domestic demand. However, this effect requires that the institutions are in place to effectively deliver productivity-enhancing services. That is the subject of the next section.

## B. Fiscal Effects of Large Aid Flows

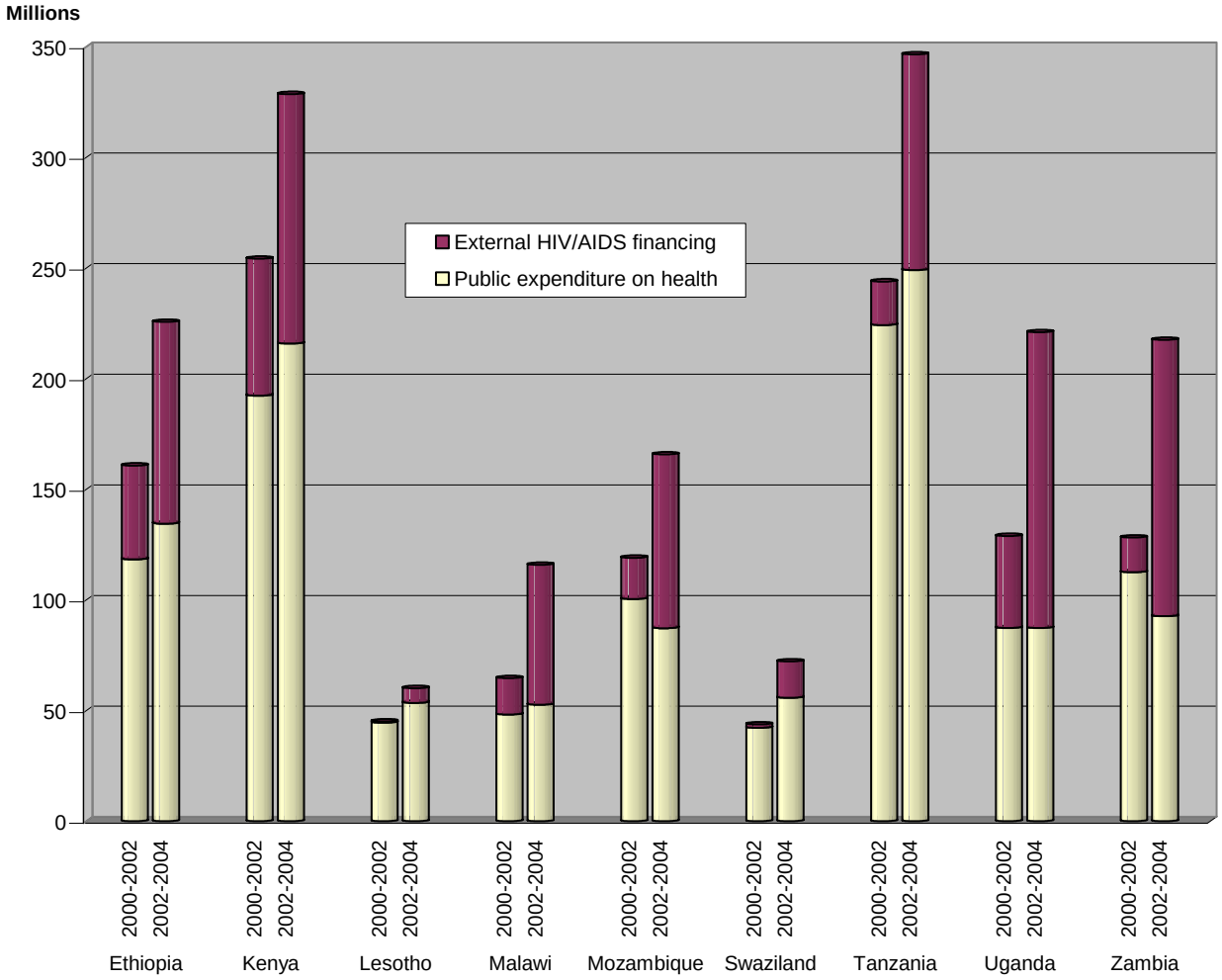
As international concern and empathy have risen, aid funds have followed. Indeed, external HIV/AIDS resources are beginning to dwarf public health allocations. Figure 4 shows trends in domestic public health spending as compared to external aid for HIV/AIDS for the same 9 countries discussed above. The averages for 2000-2002 and 2002-2004 again rely on averages to smooth the inter-year changes. Dramatic increases have occurred in HIV/AIDS financing, while public health budgets have changed little and in some cases (Mozambique and Zambia) have actually declined. As a result HIV/AIDS monies exceed overall public health budgets in some countries. Over 2002-2004, Ethiopia's external flows were equal to the government's health budget, while in both Uganda and Zambia HIV/AIDS funds exceeded all public health spending by almost 185 percent.

The sharp increases between 2000/01 and 2003/04 required rapid changes in the scale and scope of country health services to accommodate the new funds. What is puzzling is how countries can accommodate and wisely allocate new resources for HIV/AIDS while their overall health spending declines or only modestly rises.

The extent of donor financing goes beyond simply HIV/AIDS financing. In Ethiopia, Mozambique and Uganda, overall foreign assistance and loans already accounted for over half of all health spending in 2000/01 (Martin, 2003). A further concern is posed by the fact that in some countries such as Uganda, donors already underwrite 70 percent of the government's health care budget. When combined with the existing aid component of public health spending, the country depends almost entirely on external resources and therefore faces sustainability issues where aid flows fluctuate.

Arguably fiscal issues overshadow the macroeconomic concerns with regard to HIV/AIDS. Among the most important, given the discussion above, are the level and sustainability of external aid, competing demands for scarce resources within the government's budget envelope, the ability of governments to absorb sharp increases in funding, and the threat of corruption where too much money must be spent in too short a time.

**Figure 4.**
**Trends in Domestic Public Health Funding and External Financing for HIV/AIDS, 2000-2004**




Sustainability of aid-funded government programs depend on the predictability and constancy of annual allocations. Predictable aid levels allow governments to act in the interests of medium to long term objectives such as the MDGs, and permits a systematic scale up of government effort to specifically address bottlenecks. The greater the dependence on foreign assistance, the more vulnerable public programs are to the certainty of donor funds. Recent evidence suggests the highly volatile and unpredictable nature of aid. A study of 72 countries found that over time, volatility in aid flows exceeds that in tax revenues, and tends to be pro-cyclical, rising and falling with government budgets (Bulir and Hamann, 2003). Average volatility of aid is about 40 times that of revenue, and despite efforts at improvements has increased in the 2000-2003 period compared with 1995-1999 (Bulir and Hamann, 2005).

Predictability of aid, as measured by the difference between commitments and disbursements, performs unevenly but on balance is negatively correlated with development. Countries on the upper half of the income scale generally receive promised resources, but the poorest countries receive on the order of 50 percent of what is committed (Bulir and Hamann, 2005).

Long term strategies are compromised by erratic funding, and prudent public management becomes difficult. The lack of certainty restrains efforts to scale up in response to international goals, and prudent government policy should shun an agenda that entail long term investments reliant on external funding, given the limited prospects for even short term predictability in donor funds. Developing countries' responses, however, are mixed.

HIV/AIDS initiatives will be particularly affected by both the volatility and unpredictability of funding. First, any scale up in services will require additional hiring. With uncertain flows, expanding the civil service borders on folly given inflexible public sector labor markets, and particularly the inability to downsize when funding contracts or priorities shift (Over, 2004). Second, countries must rely on imported drugs for HIV/AIDS patients. If the resources or in-kind donations dry up, the government would need to take responsibility for funding, or else the life-saving treatments would cease. This has serious budgetary implications for low income countries, and heighten the competition among sectors for funding. A final HIV/AIDS-specific challenge is the need to maintain treatment levels. As a chronic disease dependent on continued therapy for survival, interruptions in ART treatment due to funding gaps reduce the benefits of treatment, and more alarmingly, can lead to the development of resistant strains of the virus, thereby compromising everyone's access to treatment (Over et. al., 2004).

Historical patterns in donor support suggest the need for cautious scale up in the face of donor promises, particularly in the medium term. Until some certainty can be assured, governments may be unduly exposing themselves and HIV/AIDS patients to serious setbacks. Given the size of pledges over the next few years, these concerns are indeed for the medium term. Donor fatigue at continued support for a life-long chronic disease or faltering donor funding for other reasons would undermine the progress and doom patients who were initially offered treatment and survival under the program. Withdrawing financial support would undermine HIV/AIDS programs in the small, low income recipient countries that could not possibly increase spending for a health program that represents more than half of existing spending in the sector.

HIV/AIDS affects the economy and the population in devastating ways, but it is only one of many critical elements in the planning and budgeting of governments. HIV/AIDS programs effectively compete with education, infrastructure and other health investments, among other public functions, for a fixed amount of resources, both human and financial. Public spending on HIV/AIDS means less for other investments, some of which have a direct, positive effect on HIV/AIDS prevention or on ensuring effective treatment for HIV/AIDS patients. For example, education plays a major role in helping girls and women avoid infection (DeWalque, 2004), and infrastructure (e.g., roads, electricity) raises productivity and improves mobility and effectiveness of human resources, drugs and patients. Hence governments must balance priorities, keep the economy and the government functioning and address special issues like HIV/AIDS. Fiscal management cannot grind to a halt in the interest of any event short of nuclear devastation. While serious, HIV/AIDS remains one of many public responsibilities.

Bevan (2005) has pointed out two additional fiscal concerns with large increases in aid. First, the rise of aid dependency and the abrogation of government capacity to generate domestic revenues (a moral hazard problem), and second the danger that corruption will be induced. The former

relates to the volatility of aid flows and the disincentives for raising adequate public revenues to finance government programs. It suggests the need for domestic matching funds, complementary initiatives from government, strengthened institutions, and containment of program creep where funding cannot be guaranteed and. The second is commensurate with the behavior patterns observed with large inflows from natural resource booms, which fuel corruption and reduced investments in mainstream needs (Leite and Weidman, 1999).

Both reduced incentives for raising national funds, and the threat of corruption apply in the HIV/AIDS context. Money is fungible, and the more external assistance there is for HIV/AIDS programs the more likely are shifts in domestic resource allocation away from HIV/AIDS-specific investments and towards country priorities with less donor interest. This leaves the country vulnerable in the event of lessened donor commitment since government investments have shifted to other programs that are also likely to need continued financing. Reducing aid volatility and predictability offer a starting point for mitigating the undesirable shift in resources. Other options need to be explored that offer governments greater flexibility in spending and allocating resources that reverse the disincentives for revenue raising and resource allocation away from a priority as serious as HIV/AIDS.

Corruption remains a potential problem in the HIV/AIDS context due to the sharp rise in funding and the difficulty of translating new resources into immediate programs. Weak institutions exacerbate the likelihood of corruption, both in not overcoming obstacles, and in poor or negligible oversight and enforcement. Strengthened institutions accompanied by better accountability arrangements can help to blunt the likelihood of corruption. However, the fungibility of resources makes the diversion of funds harder to discern and control. Institutions play a central role in ensuring the adequate use and benefit of aid flows. The next section takes up this topic, as it has implications for all aspects of HIV/AIDS funding and program implementation.

## IV. Institutional Issues in HIV/AIDS Spending Increases

Good institutions underpin effective policies, including macroeconomic and fiscal policy (Berg, 2005; Bevan, 2005).[5] They also contribute to whether and how well government can deliver services. Simply having good intentions and the right priorities does not guarantee effective programs. It requires the necessary leadership, management, staffing and infrastructure to translate donor resources into programs that produce the intended outcomes of reducing the spread of HIV, treating those already infected and managing the burgeoning number of orphans. Institutions are woefully weak in much of Africa, and that extends to ministries of health whose expertise in management and finance is often limited.

The IMF and World Bank (2004), in their paper for the Development Committee, have noted that accelerating progress toward the MDGs will require a combination of good policies, institutional strengthening and additional support from donors. They observe that “weak institutions and regulatory policies, elevated corruption and poor governance can lead to sharply

[5] Bevan (2005) notes that specific constraints often reflect a generalized lack of capacity in low income countries, and that absorptive capacity constraints, while they have macroeconomic implications, are largely sectoral and fiscal phenomena, and need to be addressed accordingly.

diminishing returns to aid. Quality of governance and institutions is most critical in using aid to accelerate progress toward the MDGs." While the scope of their study is broader, these admonitions apply to the health sector and to HIV/AIDS programs.

These three factors – institutions, governance and upgrading capacity – play important roles in determining whether additional funds for HIV/AIDS can be effectively absorbed. What is risky is the assumption that the complementary inputs will be available and deployed immediately once external funding becomes available. Where delays occur due to lack of any critical input (e.g., staffing, infrastructure, management, warehousing, logistics), productivity is reduced and impact falters.[6] The infrastructure may be available, the staffing complete but a missing input leaves programs unable to be productive. Curran et. al. (2004) record USAID experience with infrastructure in place but inadequate human resources to man clinics and health posts. Scaling up availability of infrastructure (roads, power, water supply, etc.), skills and other factors needed to absorb funds will be essential to producing positive returns.

Recent simulation evidence for Ethiopia suggests the importance of infrastructure and human capital in raising growth and allowing additional absorption of aid (Sundberg, Lofgren and Bourguignon, forthcoming). Their results point in particular to the need for sequencing with initial infrastructure investments to support productivity gains in public service delivery, which in turn will raise growth, household incomes and public revenues. Combined with additional investments in education to permit the scale up in skilled workers, aid investments can then be absorbed effectively. The need for early emphasis on education to build expanded health sector capacity is echoed by Curran et.al. (2004) in their analysis of treatment needs for HIV/AIDS in Africa.

Mills and Hanson (2003) identify and explore the constraints to scaling up to absorb increased funding for the health sector. These same constraints confront expansion of HIV/AIDS services whether they are stand alone programs or integrated with the overall health care delivery system. If the public sector is to adequately meet the expanding demand for HIV/AIDS treatment, which now is likely to have sufficient funding at least for the next few years, the following constraints will need to be confronted: (i) infrastructure; (ii) hiring, training and retaining staff; (iii) upgraded logistics for drugs and supplies; (iv) improved information generation to meet donor requirements; and, (v) governance reforms. In many respects governance reforms – improving efficiency, performance and impact – captures the set of actions needed to ensure progress on these constraints.

## A. Nature of Governance Issues in Health.

Funding represents an essential but insufficient element in scaling up to fight HIV/AIDS. Countries need the capacity to manage, spend, and monitor additional donor inflows (Haacker, 2004b), despite facing significant institutional and governance constraints in doing so (Kumaranayake and Watts, 2001; Mills and Hanson, 2003). Institutions in the poorest developing countries, especially those in the health sector, reveal gaps in basic management and oversight (Curran et. al., 2004; Oliveira-Cruz, Hanson and Mills, 2003; Munishi, 2003; Lewis,

[6] For example, imported drugs that expire on the wharf due to lack of trucks to transport products to warehouses render ARV treatment programs useless and a waste of scarce resources.

LaForgia and Sulvetta, 1997). Inadequate capacity translates into low efficiency and effectiveness of spending, and the lack of accountability means that poor performance goes unaddressed (Over, 2004).

Human resources represent over half the cost of health care, even in the industrialized countries. In lower income countries, it can reach 90 percent of health spending. The HIV/AIDS crisis affects the supply of health care providers, as they too are affected by the epidemic. HIV/AIDS incidence adds costs through absenteeism of health care workers who are too ill to come to work, their use of medical and death-related benefits, and the costs of hiring and training replacement staff for those who die. Evidence from Malawi shows annual absenteeism at 65 days for those with full-blown HIV/AIDS, and 15 days for those with HIV (Haacker, 2004b). Another factor that adds to the problem of inadequate human resources is that of sharply increased migration among health workers to other countries, reducing availability at a time when demand is on the rise. However, while sub-Saharan Africa as a whole is losing health workers to migration, countries with relatively high income in the region are also a destination for regional migration, thus mitigating the losses from brain drain in the receiving countries of Africa.

In Africa staffing constraints pose a major challenge both because of the limited supply and because of the accelerating out-migration of trained health workers (Chen, Evans and Anand, 2004; Joint Learning Initiative, 2004). Supply of trained workers is obviously highly inelastic (unresponsive) given the lead time needed to bring them up to required skill levels (Over, 2004). Management needs face similar restrictions, and are probably the single most important set of skills for defining and leading the scale up process to deal with HIV/AIDS. They are being taken up in various forums. We focus here on the institutional constraints, specifically on the nature of governance in health and highlight some recent experiences.

Poor governance – including corruption, and weak financial and personnel management in public health systems – adds to costs and lowers the productivity of existing staff (Kaufmann, Kray and Zoido-Lobatón 1999). Household surveys show that in some countries, patients are often required to provide under-the-table payoffs to health workers for treatment at public clinics, a violation of free health care mandates and a direct payment to public servants (Lewis, forthcoming; Munishi, 2003; Thompson, 2004). An exercise in tracking public funds from ministries of finance showed that local capture, leakage, and bureaucratic impediments prevented resources from reaching the front line in many African countries. In Uganda, only 13 percent of capitation grants for education ever reached the schools, a situation not unique to the education sector, and suggestive of systemic problems (Dehn, Reinikka and Svensson, 2003).[7] A recent multi-country study recorded absenteeism at primary health care clinics in non–HIV/AIDS afflicted countries of between 28 and 42 percent (World Bank, 2004a) and in Bangladesh, a survey found that absenteeism among physicians averaged 35 percent, reaching 74 percent at the larger clinics (Chaudhury and Hammer, 2004). An earlier study in a major public hospital in the Dominican Republic could account for only 12 percent of physician time over a two-week period

[7] Subsequent action of reporting budget amounts in local newspapers and posting transfer amounts on schoolhouse doors have remedied the situation (Reinikka and Svensson, 2004).

(Lewis, La Forgia and Sulvetta, 1997) These governance challenges bring into question the value of simply increasing staffing.[8]

The shortages of staffing for expanding treatment that have raised hackles in the international community (Burkhalter, 2004) have as much to do with limitations of government management as they do with external pressures from the international financial institutions to limit hiring. The working conditions of civil servants where there are missing supplies and drugs, few opportunities for advancement, and poor management have as much to do with low morale and out-migration as simply low pay (Curran et. al., 2004). Zimbabwe offers a case in point. Prior to the disintegration of the health system the well run civil service retained workers, including those in the health sector. With deteriorating working conditions, eroding management and political and economic uncertainty, the higher salaries and better management outside the country become attractive options. Reforming civil service systems is complex and difficult and a responsibility outside of the Ministry of Health but is a key component of good governance and a critical ingredient in the scale up for HIV/AIDS.

A potentially pernicious effect of poor governance and substandard services in HIV/AIDS is poorly designed or under-resourced treatment programs that lead to low levels of adherence to complex treatment regimes. If drugs are not administered according to strict protocols, resistant strains of the virus can develop, jeopardizing treatment options for all (Over et. al., 2004). Some degree of chaos and a period of adjustment generally accompany major expansions or shifts of service delivery in scaling up. Anti-retroviral treatment (ART) services would be no exception, but the ability of the virus to constantly mutate and adapt to changing circumstances, and the public good nature of minimizing resistant strains suggest the need for particular care and attention to protocols and ART management.

Expanding the prevention and treatment of HIV/AIDS must focus on better management at all levels, financial oversight, and accountability of public spending, which can both increase and improve service delivery through addressing issues such as staff absenteeism and productivity, and financial leakages and irregularities. Otherwise the government will be hard pressed to effectively absorb expanded funding.

### B. Building Health Institutions.

Absorbing more funding fundamentally means bolstering the health care delivery system. Building capacity and institutions must accompany large scale ups in aid to improve both aid effectiveness and marginal returns of a given level of aid (absorptive capacity). That means strengthening the public entities that deliver health care. Donor penchant for vertical programs that allow countries to place “flags in the sand” undermine governments’ ability to develop an integrated, functioning system for health care delivery. HIV/AIDS programs already rely on the existing infrastructure of physical and human capital directly and indirectly. Even where HIV/AIDS programs are vertical, stand alone initiatives they remain part of the broader public

[8] The oversupply of physicians in countries like Egypt and Pakistan have not translated into more effective or accessible health care services, suggesting that more than just hiring additional staff will be needed to improve performance in the health sector.

health delivery efforts since diagnosis, referrals and treatment of opportunistic infections as well as side effects of ART continue to be provided by the health system. In sub-Saharan Africa between 40-70 percent of hospitals beds in some countries were filled by patients with HIV/AIDS-related illnesses (Over, 2004).

Separating HIV/AIDS from the overall health care delivery system is both inefficient and clinically ill-advised. Both the recent Millennium Project Task Force on HIV/AIDS (Ruxin, Binagwaho and Wilson, 2005) and WHO's Commission on Macroeconomics and Health, Working Group 5 (Mills and Hanson, 2003) have emphasized the imperative of upgrading health care systems to cope with the prevention and treatment for HIV/AIDS as well as other vertical programs. HIV/AIDS services are part and parcel of the health care delivery system's services. Vertical and integrated health programs must be complementary, and over the longer term programs like HIV/AIDS need to be absorbed by the health system (Oliveira-Cruz, Kurowski and Mills, 2003). Focusing solely on vertical initiatives to deliver preventive and treatment services misses the opportunity to integrate priority programs in the overall health program, fragments outreach, raises the demand for management skills that are already in short supply, and bleeds the health system of financial and human resources to set up a parallel delivery operation. Vertical programs often reflect a desire for a short term fix, but results in a costly approach that weakens the health system overall.

In short, vertical programs, while easier for donors to manage and monitor, are at odds with efforts to build sound institutions, the cornerstones of development.

Institutional issues have played a limited role in the concerns over HIV/AIDS, but the preliminary evidence suggests that it is the institutions in the health sector that need to support HIV/AIDS scale up. In addition, the governance issues deserve more attention since poor governance, the attendant corruption, and low productivity make progress in HIV/AIDS outcomes difficult to achieve.

## V. Emerging Challenges for HIV/AIDS Spending.

A recent IMF policy document notes that "under the PRSP approach, countries with sound poverty reduction strategies and public expenditure management systems should benefit from higher aid flows," specifically noting transfers from the Global Fund, bilateral donors, and philanthropic organizations. It further specifies that these increased aid flows can be accommodated "where they can be spent productively without undermining macroeconomic stability and/or fiscal and external debt sustainability," and that "consideration will need to be given to whether there is sufficient absorptive capacity in the economy, as well as administrative capacity within the government to accommodate these flows" (IMF, 2003).

This policy highlights the importance of a particular health issue and places responsibility for how much to spend, and on what, to governments. While appropriate, the HIV/AIDS crisis often limits options. The question is how to address public sector management and institution building objectives within the context of urgent pressure to spend to save lives. Recent experience in Zambia and Uganda offer telling examples of the challenges facing governments, and the need to view HIV/AIDS within the broader context of macroeconomic, fiscal and institutional pressures.

The IMF's decisionmaking procedures and spending restrictions are often criticized as hostile to promoting investments in social sectors such as health and education (Burkhalter, 2004). But country circumstances and actions are often more complicated than they appear. The attached box offers a good example of disorganization in the Zambian government that resulted in a fiscal crisis. Rising resource needs for HIV/AIDS coincided with a realization that the government was overextended. Scale-up efforts to cope with the rising tide of funds for the disease were directly affected. Severe austerity measures, framed with the assistance of the IMF and World Bank, became necessary to restore fiscal order. The crisis could have been avoided if there had been transparency in government finances and prudent budgetary allocations. Another lesson that emerged was the need for ministries of health to act proactively in close coordination with ministries of finance, planning programs along with their financing.

**Zambia: Government Policy, the IFIs and the Fight against HIV/AIDS**

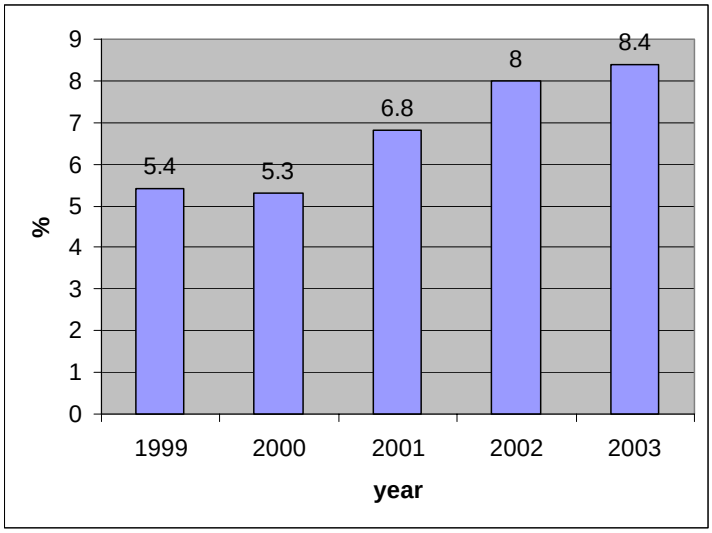
The Zambian HIV/AIDS epidemic has contributed to government woes as it saps the civil service, raises cost of health care with HIV and opportunistic infections (OI) care, and leaves large numbers of orphans in its wake. With 16 percent of the population and 30 percent of pregnant women diagnosed as HIV positive (Central Statistical Office Zambia, et. al., 2003) there is no doubt that Zambia faces a crisis. HIV/AIDS is estimated to have reduced annual economic growth by one percent per year as the epidemic has spread unchecked. Efforts to scale up HIV/AIDS spending have met a series of setbacks.

Zambia's economic growth has averaged more than 4 percent in last five years. Although this is not fast enough to reduce poverty in line with the MDGs, it represents a sharp improvement over a decade of 1.4 percent annual growth and declining per capita income (World Bank, 2004b). Progress has been made towards macroeconomic stability. However, wage increases in the public sector have increasingly been a source of pressure on the fiscal deficit and hence domestic borrowing and interest rates. Government spending on civil service salaries increased from 5.4 percent of GDP in 1999 to 8.0 percent in 2002.

In 2003, the government granted wage increases and related allowances that would have increased the wage bill to over 10 percent of the GDP—a wage bill Zambia could ill-afford and well out of line with sound international practice and affordable government (see graph). Generous pension and separation obligations, which cost roughly 12 years of salary per retrenchment (World Bank 2004c), led ministries to delay retirements, instead keeping existing staff on the payroll and hiring more. All government bodies hired with impunity, without the knowledge of the Ministry of Finance, ignoring all rules about hiring and salaries. No records of the hiring were maintained, and "ghost workers" proliferated.

The large projected budget overrun threw fiscal policy into disarray precluding a new three-year PRGF arrangement, after the last PRGF arrangement expired in March 2003. An IMF staff-monitored program (which entails an understanding on macroeconomic policies between the government and the IMF, but does not include any lending by the IMF), which was extended to June 2004, served to bring policies back on track for a new PRGF arrangement. These

**Zambian Civil Service Spending as a Percent of GDP, 1999-2003**




Source: IMF

developments delayed progress toward HIPC completion. It also required the government to renegotiate agreements with public employee unions to bring public spending under control. A Dutch grant for retrenchment costs also allowed the government to shed 7,000 civil servants.

With assistance from the World Bank and the IMF, Zambia has sought to frame a solution that could: (i) meet macroeconomic priorities; (ii) address the challenges of governance, public expenditure management, and financial accountability; and (iii) ensure that public staffing needs are met, especially in education and health. The newly agreed PRGF specifically addresses staffing issues, supporting limits in the total wage bill that maintains overall public sector staffing costs at 8 percent of GDP, without putting limits on hiring. Recent retirements and retrenchments will permit hiring increases, but the rules and priorities regarding how many to hire, and in which sectors, are left to the Zambian government. The World Bank has specifically noted the need to increase efforts and spending on prevention and treatment for HIV/AIDS (World Bank, 2004b).

An alternative scenario emerged in Uganda where significant inflows for HIV/AIDS created difficulties for the Central Bank due to their level of domestic, rather than international, debt. The Bank of Uganda characterized the free money as “too costly to absorb” (Obwona 2004). The government froze the 2002/03 budget for the Ministry of Health, instructing it to “turn down funding from overseas donors that do not fall within the government’s priorities.” (Wendo, 2002). In this instance, the constraint was not one of absorptive capacity, the requirements of sound monetary policy, without controlling government spending they would undermine their ability to control the money supply. Moreover, because it was left out of the Medium Term Expenditure Framework (MTEF) that defines the government’s fiscal priorities counterpart funds were not available. Effectively the government took a stand to protect the economy and the discipline of sound fiscal management.

In both countries, the ultimate decision lay with government policy-making and action. In Zambia, both IFIs took a stand on the parameters of national spending, which had a direct effect on the use of HIV/AIDS funds, but neither institution actually prescribed government actions, and neither they nor the government were able to effectively prevent the undesirable outcomes.

Because evidence is mixed, governments must rely on good practice, observe other policies and their outcomes, and pay attention not only to the macroeconomic and fiscal concerns, but to the institutional issues that are so central to effective public programs. The two cases here present very different policies and actions, but both are instructive on the pitfalls and processes needed to both manage an economy and address a devastating disease that is claiming lives and compromising countries' futures.

## VI. Policy Implications and Recommendations

The international donor community's largesse comes in response to alarms rung by UNAIDS and others who have seen firsthand the devastation of the disease. Billions of dollars have been mobilized; the challenge now is to ensure that the monies can be used and absorbed effectively, and to achieve positive outcomes both in containing HIV/AIDS and in macroeconomic management.

Large amounts of financing and first rate advice can achieve little unless countries themselves choose to take charge. The World Bank, IMF, bilateral donors and other players in the end can only provide support to what must be government policy, commitment, and action. This remains the fundamental component of effective interventions and satisfactory outcomes, for countries, IFIs, and other public and private donors. With that as background, this section lays out the implications of the above discussion, and suggests areas for further action by donors and governments who are directly involved as partners in the overall effort.

Although the donors and the IFIs have realized the magnitude of the HIV/AIDS problem, and while they acknowledge the imperative to do more on both prevention and treatment, they face challenges in reconciling these needs with prudent macroeconomic and fiscal policies. In seeking acceptable solutions at least some of the government spending constraints can be addressed through innovative options.

First, since funding flows are erratic and likely to be concentrated across a relatively short period, the sustainability of funding could be ensured through establishment of a special HIV/AIDS Stabilization Fund that would receive HIV/AIDS contributions from donors and other institutions. In effect it would be "absorbing" aid and allowing its spending over time (in the terms of Berg, 2005). It would imitate the sequestered funds from natural resource earnings that use special funds to help manage revenue windfalls to ensure their sensible use. If reported transparently and managed appropriately such a fund would address the some of the macroeconomic, fiscal and governance problems that abrupt, large inflows can imply. Countries could then absorb all dedicated funding for HIV/AIDS and make available the necessary resources for prevention and treatment programs for HIV/AIDS. The terms of trade and exchange rate problems could be better managed, big annual disbursements could be made more readily by donors, and productivity and impact could be enhanced in the process.

Given the chronic nature of HIV/AIDS and the need to maintain ARV treatment over the life span of patients, extending funding over a longer period and arranging funding in line with capacity would strengthen a country's ability to manage external flows, allow them to scale up at a feasible pace and provide HIV/AIDS care at the same time. The experiences of resource-rich countries like Azerbaijan, and Norway in handling sudden increases in oil revenues, similar to the surge in HIV/AIDS funds, are instructive. These countries sequestered oil revenues in special funds to better manage their financial resources and prevent a flood of spending that would have undermine good fiscal management. Botswana's experience with putting aside diamond earnings is another example. The IFIs already have experience in assisting governments in undertaking such efforts and could be called upon in this instance to help countries manage their HIV/AIDS inflows sustainability.

Second, a "tax" of, say, 10 percent on all incoming funds could be levied to pay for the upgrading of the health care system. This is a cost donors have been reluctant to underwrite, even though the bulk of the new monies would need to rely on the health system to be effective. Such a tax would spread the cost of scaling up among donors and ensure that governments alone were not paying out of their already scarce funds. The World Bank could manage the necessary transactions if needed, and support government efforts to effectively expand and restructure their health systems.

Third, delivery of prevention and treatment should expand beyond simply the government. This does not suggest that government abrogate its responsibilities, but that government continue to coordinate and to find innovative means of service delivery. The model in Haiti of minimally trained outreach workers reaching low income communities combines highly technical management and oversight that bolsters the functions of lower level workers (Farmer et. al., 2001). The Joint Learning Initiative (Chen, Evans and Anand, 2004) and the Millennium Task Force Report on HIV/AIDS (Ruxin, Binagwaho and Wilson, 2005) propose greater reliance on NGOs in delivery and recent evaluations in Africa suggest the cost effectiveness of NGOs in service delivery (Reinikka and Svensson, 2003). Hiring temporary workers for government programs offers a short term flexible option, although this may require government-wide sponsorship and agreement. It should be a component of governance reforms. Having government sponsor joint training or integrate tasks drawing on the comparative advantage of different resource in the country offer possible solutions to some of the bottlenecks. Given the severity of the problem, multiple solutions will be essential.

Fourth, governments need to address the governance problems impeding progress in public service delivery. While a point that goes much beyond the response to HIV/AIDS, it remains a crucial component for effective HIV/AIDS efforts. These actions are as important as the sectoral-specific proposals above and will have an equally important influence on the effectiveness of HIV/AIDS and other health delivery tasks. Civil service reform, budget management changes and greater accountability for policies, programs and fiduciary functions deserve attention, and are critical to effective scaling up in health and HIV/AIDS. As part of the objective of promoting better governance, is the responsibility to better understand ways to ensure accountability. That entails incorporating sound evaluations to guide program adjustments and future endeavors. Encouraging innovative approaches such as day beds in clinics; assistance with contracting out

ancillary and direct service provision; issuing vouchers for HIV/AIDS patients (which provides an added benefit if health care workers are allowed to cash them in for remuneration because providers then have an incentive to make sure the drug and supply logistics function), and the use of supervised paraprofessionals all offer ways to improve delivery while husbanding scarce resources. Part of governance reforms should address these kinds of performance and productivity enhancing initiatives.

Finally, the World Bank needs to do more. The institution is unique in its ability to work across the governments with ministries of finance, health and economy. Acceptable solutions to the myriad of sectoral and systemic issues outlined above require broad understanding and action across government. The World Bank has a comparative advantage, relative to other institutions, in taking on the broader agenda of budget management, public sector reform, and the interface with the health sector. Building on its experience with HIV/AIDS programs, the Bank should continue to contribute resources, but also help to focus both borrower and donor attention on easing the administrative and capacity constraints that slow disbursements from all sources. For example, the Bank could serve as honest broker in discussions between ministries of finance and health to persuade the former to fund health care or accept donor funds, and the latter to give priority to financing and performance issues.

## References


ActionAid International, Global HIV/AIDS Alliance, Student Global HIV/AIDS Campaign, Results Educational Fund (2004). Blocking progress: How the fight against HIV/AIDS is being undermined by the World Bank and the International Monetary Fund. Policy brief (September).

Adam C & Bevan D (2003). Aid, public expenditure and Dutch disease. Center for the Study of African Economies Working Paper Series, Paper 184.

Adenauer, I & Vagassky L (1998). Aid and the real exchange rate: Dutch disease effects in African countries. *Intereconomics*, 33(4): 177-85.

Ainsworth M (2004). Monitoring and evaluation of national HIV/AIDS programs: Lessons learned from four developing countries. Presentation at the XV International Conference, Bangkok.

Ainsworth M & Teokul W (2000). Breaking the silence: Setting realistic priorities for HIV/AIDS control in less-developed countries. *The Lancet*, 356: 55-60.

Bell C, Devarajan S & Gersbach, H (2004). Thinking about the long-run economic costs of HIV/AIDS. In Haacker, M. (Ed.), *The Macroeconomics of HIV/AIDS*. Washington, D.C.: International Monetary Fund, pp. 96-133.

Berg A (2005). High aid inflows case study: Ghana. Paper presented at the International Monetary Fund Seminar on Foreign Aid and Macroeconomic Management. Maputo, Mozambique, March 14-15.

Bevan D (2005). An analytical overview of aid absorption: Recognizing and avoiding macroeconomic hazards. Paper presented at the International Monetary Fund Seminar on Foreign Aid and Macroeconomic Management. Maputo, Mozambique, March 14-15.

Bulir A. & Hamann A J (2003). Aid volatility: an empirical assessment. *IMF Staff Papers*, 50(1): 64-89.

Bulir A & Hamann A J (2005). Volatility of development aid: From the frying pan into the fire? International Monetary Fund Working Paper. Draft.

Burkhalter H (2004). Misplaced help in the HIV/AIDS fight. *Washington Post*, Editorial, May 25.

Central Statistical Office [Zambia], Central Board of Health [Zambia], and ORC Macro. (2003). Zambia Demographic and Health Survey 2001-2002. Calverton, Maryland, USA: Central Statistical Office, Central Board of Health, and ORC.

Chaudhury N & Hammer J (2004). Ghost doctors: Absenteeism in rural Bangladeshi health facilities. *World Bank Economic Review*, 19(3).

Chen L, Evans T & Anand S, *et al.* (2004) Human resources for health: Overcoming the crisis. *The Lancet*, 364: 1984-90.

Commission on Macroeconomics and Health (CMH). (2001). Macroeconomics and health: Investing in health for economic development . Geneva: World Health Organisation. http://www.cid.harvard.edu/cidcmh/CMHReport.pdf

Curran J, Debas H, Arya M, Kelley P, Knobler S & Pray L (Eds.) (2004). *Scaling Up Treatment for the Global HIV/AIDS Pandemic: Challenges and Opportunities*. Washington, D.C.: National Academies Press.

Dehn J, Reinikka R, & Svensson J (2003). Survey tools for assessing performance in service delivery. In Bourguignon, F. & Pereira da Silva, L., (Eds.), *The Impact of Economic Policies on Poverty and Income Distribution: Evaluation Techniques and Tools*. Washington D.C and New York: World Bank and Oxford University Press.

DeWalque D (2004). How does the impact of an HIV/AIS information campaign vary with educational attainment? Evidence from rural Uganda. Working Paper. Washington, D.C.: World Bank Development Research Group (March).

Farmer P, Leandre F, Mukherjee JS, *et al.* (2001). Community-based approaches to HIV treatment in resource-poor settings. *The Lancet*. Aug 4, 358(9279): 404-9.

Haacker M. (Ed.). (2004a). *The Macroeconomics of HIV/AIDS*. Washington, D.C.: International Monetary Fund.

Haacker M (2004b). The impact of HIV/AIDS on government finance and public service. In Haacker, M., (Ed.), *The Macroeconomics of HIV/AIDS*. Washington, D.C.: International Monetary Fund, 167-81.

Heller P & Gupta S (2002). Challenges in expanding development assistance. IMF Policy Discussion Paper No. 02/5.

International Monetary Fund (2003). Aligning the Poverty Reduction and Growth Facility (PRGF) and the Poverty Reduction Strategy Paper (PRSP) approach: Issues and options. IMF Policy Development and Review Department. http://www.imf.org/external/np/prsp/2003/eng/042503.pdf

International Monetary Fund and World Bank (2004). Aid effectiveness and financing modalities. Background paper for the Joint Ministerial Committee of the Boards of Governors of the Bank and the Fund on the Transfer of Real Resources to Developing Countries (September 29). DC2004-0012/Add.1.

International Monetary Fund (2005a). The Federal Democratic Republic of Ethiopia: Ex post assessment of long-term Fund engagement. IMF Country Report No. 05/28.

International Monetary Fund. (2005b). Comparator paper on country experience (TBC)

Joint Learning Initiative (2004). *Human Resources for Health*. Boston, Massachussetts: Harvard University.

Kauffman D, Kraay A & Zoido-Lobatón P (1999). Governance matters. World Bank Discussion Paper No. 2196.

Kumaranayake L & Watts C (2001) Resource allocation and priority settings of HIV/AIDS interventions: addressing the generalized epidemic in sub-Saharan Africa. *Journal of International Development*, 13: 451-466.

Leite C and Weidman J (1999). Does Mother Nature corrupt?: Natural resources, corruption and economic growth. Washington, D.C.: IMF, Working Paper WP99/85.

Lewis M (2005) Spending on HIV/AIDS requires a lateral approach. *Financial Times*, April 20.

Lewis M (forthcoming) Governance and corruption in health care: Evidence from developing and transition countries. Washington, D.C.: Center for Global Development Working Paper. Draft.

Lewis M & Stout S (forthcoming) Financing HIV/AIDS: Second generation issues and the roles of the international financial institutions. In Beck E, Mays N, Whiteside A & Zuniga J (Eds.), *Dealing with the HIV Pandemic in the 21st Century: Health Systems' Responses Past, Present and Future***.**

Lewis M, La Forgia G & Sulvetta M (1997). Measuring public hospital costs: Empirical evidence from the Dominican Republic. *Social Science and Medicine*, 43(2).

Martin G (2003). A comparative analysis of the financing of HIV/AIDS programmes in Botswana, Lesotho, Mozambique, South Africa, Swaziland and Zimbabwe. Report prepared for the Social Aspects of HIV/AIDS and Health Research Programme. Human Sciences Research Council.

McGillivray M. & Morrissey O. (2001) Aid illusion and public sector fiscal behavior. *Journal of Development Studies*. 37(August): 118-36.

Mills A & Hanson K (Eds.) (2003). Expanding access to health interventions in low and middle income countries: Constraints and opportunities for scaling up. *Journal of International Development* (Special issue), 15(1).

Munishi G K (2003) Intervening to address constraints through health sector reforms in Tanzania: Some gains and the unfinished business. In Mills, A. & Hanson, K. (Eds.) (2003). Expanding access to health interventions in low and middle income countries: Constraints and opportunities for scaling up. *Journal of International Development* (Special issue), 15(1).

Obwona M. (2004) Personal communication.

Oliveira-Cruz V, Hanson K & Mills A (2003). Approaches to overcoming constraints to effective health service delivery: A review of the evidence. In Mills, A. & Hanson, K. (Eds.) (2003). Expanding access to health interventions in low and middle income countries: Constraints and opportunities for scaling up. *Journal of International Development* (Special issue), 15(1).

Oliveira-Cruz V, Kurowski C & Mills A (2003). Delivery of priority health services: Searching for synergies within the vertical versus horizontal debate. In Mills, A. & Hanson, K. (Eds.) (2003). Expanding access to health interventions in low and middle income countries: Constraints and opportunities for scaling up. *Journal of International Development* (Special issue), 15(1).

Organization for Economic Cooperation and Development (OECD). International Development Statistics (IDS) online: Databases on aid and other resource flows. http://www.oecd.org/dataoecd/50/17/5037721.htm.

Over M (2004). Impact of the HIV/AIDS Epidemic on health sectors. In Haacker, M., (Ed.), *The Macroeconomics of HIV/AIDS*. Washington, D.C.: International Monetary Fund.

Over M., Heywood P, Gold J, Gupta I, Hira S and Marseille E (2004). *HIV/AIDS Treatment and Prevention in India: Modeling the Cost and the Consequences*. Washington, D.C.: World Bank.

Putzel J. (2004). The global fight against HIV/AIDS: How adequate are the national commissions? *Journal of International Development*. 16: 1129-1140.

Reinikka R and Svensson J (2003). Working for God? Evaluating service delivery of religious not-for-profit health care providers in Uganda. World Bank Policy Research Working Paper 3058 (May).

Reinikka R and Svensson J (2004). The Power of Information: Evidence from a Newspaper Campaign to Reduce Capture. Mimeo (March).

Ruxin J, Binagwaho A & Wilson P. (2005) *Millennium Project Task Force Report: Combating HIV/AIDS in the Development World.* Sterling, VA.: Earthscan.

Sundberg M, Lofgren H & Bourguignon F (Forthcoming). Absorptive capacity and achieving the MDGs: The case of Ethiopia. Development Economics Department of the World Bank.

Thompson R (2004). Informal payments for emergency hospital care in Kazakhstan: An exploration of patient and physician Behavior. Ph.D. thesis, University of York, UK.

UNAIDS. (2004). Financing the expanded response to HIV/AIDS. UNAIDS/04.39E. Prepublication Draft. Geneva: UNAIDS.

UNAIDS. (2005). Resource needs for an expanded response to HIV/AIDS in low- and middle-income countries. Geneva: UNAIDS.

Vos R. (1998) Aid flows and 'Dutch disease' in a general equilibrium framework for Pakistan. *Journal of Policy Modeling*, 12(1): 163-240.

Wendo C. (2002). Uganda stands firm on health spending freeze. *The Lancet*, 360:1847.

World Bank Operations Evaluation Department. (2003). India: National HIV/AIDS Control Project. Project performance assessment report (Credit 2350). Washington D.C.: World Bank.http://www.worldbank.org/oed/AIDS/New-India AIDS PPAR- Final.pdf.

World Bank. (2004a). *World Development Report: Making Services Work for Poor People*. Washington DC: World Bank and Oxford University Press.

World Bank. (2004b). Zambia: Country Economic Memorandum. Policies for Growth and Diversification. World Bank Report No. 28069-ZA.

World Bank. (2004c). *Zambia: Public Expenditure Management and Financial Accountability Review*. A World Bank Country Study. Washington D.C.: World Bank, 112-123.

Younger S (1992). Aid and the Dutch disease: Macroeconomic management when everybody loves you. *World Development*, 20(11): 1587-1597.