

Too much of a good thing?

Potential economic consequences of donor-financed HIV/AIDS spending¹

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Introduction and summary

Despite a leveling off of prevalence rates in some countries, HIV/AIDS remains by some measures the biggest killer amongst communicable diseases worldwide. Donor countries and institutions have responded by substantially increasing resources devoted to HIV/AIDS programs. A report by UNAIDS and the Kaiser Family Foundation (2007) estimated that donor commitments amounted to at least \$5 billion in 2006, delivered through a variety of bilateral and multilateral organizations, some long established (e.g. IDA), some in their comparative infancy (e.g., the GFATM, PEPFAR). Estimates of total donor, domestic, and private spending for 2007 reach as high as \$10 billion (UNAIDS, 2006).

The flow of donor funds dedicated to HIV/AIDS has reached or exceeded the whole of the health budget in some poor countries (Bernstein and Sessions, 2007). While expansion of donor largesse is welcomed by most, some observers have voiced concerns about the impacts of such large inflows of HIV/AIDS funding. In the paper we address this issue: can there be too much of a good thing?

We first take a closer look at what kinds of distortions, or inefficiencies, could arise in the delivery of dedicated external assistance, and distinguish between two notions of inefficiency. In the first notion, that of allocative inefficiency, donors might be focusing on the wrong disease, or at least focusing too much on HIV/AIDS. Having noted this source of inefficiency however, we resist the temptation to evaluate such claims, as this is the source of much on-going work, and a question that has been better addressed elsewhere (Laxminarayan et al, 2006).

Instead we focus on the equally important question of how effectively current resources are being used. To this end, we focus on an alternative concept of efficiency - that of productive efficiency. Are donors paying too much for what they get, and could the same resources be organized differently to achieve better outcomes on all dimensions? Such changes, if they were achievable, should surely be acceptable to all parties.

Within this framework, we propose that the focus of the debate could be fruitfully shifted away from asking “How much” should donors contribute to HIV/AIDS? (although this remains an important question), to “How” should donor funds be delivered? The productive distortions we identify conceptually below arise for two reasons: first, we assume that the delivery of any foreign assistance to fight HIV/AIDS requires complementary resources at the recipient country level. We focus attention on the need for health workers (we refer simply to “doctors”), but other local resources include administrative capacity, governance procedures, etc. In principle donors could provide all of these inputs, but this would result in a virtual take-over of the health system, and indeed other government functions, which would raise serious moral issues. Importing drugs and equipment is relatively straightforward, but transplanting medical personnel, not to mention good institutions, is rather more difficult.

Lack of domestic capacity does not mean aid is inefficient – although it does mean that the results of aid will not be as good as we might hope. The second feature of the aid environment that we suggest does lead to distortions is the way in which it is delivered. In particular, when donors impose conditions on the way in which inflows are used, the associated reallocations of complementary domestic resources can reduce achievable health (or other) outcomes. We do not suggest that conditionality is an unmitigated disaster: donors might have different preferences to countries, and the preferences of country decision-makers might not reflect the needs and desires of their citizens. We do not make any assumption about which party has the “right” objectives – the donor or the recipient – but simply note that some distortions and cost-inefficiencies might be acceptable to donors as they pursue their own goals, such as gaining support from taxpayers. The ways in which these tensions are resolved however can have efficiency implications, and some ways of conditioning donor flows might be better (for everyone) than others.

Following our discussion of how distortions and inefficiencies might arise, we turn to the evidence. We report broad trends in donor activity over the last decade, and focus on the creation of the Global Fund to Fight AIDS, Malaria, and Tuberculosis (GFATM) and the US government’s PEPFAR program. We then examine in more detail the experiences of two sub-Saharan African countries – Kenya and Rwanda – to assess the extent of potential distortions.

Our first empirical observation is that data on aid flows for HIV/AIDS within a country, and the associated government budgetary responses, are woefully inadequate to perform a comprehensive evaluation of the distortionary impacts of HIV/AIDS inflows. Nonetheless, we try to piece together data on sub-Saharan African countries in general, and on Kenya and Rwanda in particular, to shed some light on the potential impacts. We find

How can donor funding for HIV/AIDS cause distortions?

"There is increasing recognition that aid has to be more than putting a bunch of white doctors on a plane and telling them to hand out pills"²

If only donors could provide the doctors (white, or otherwise) to do the job. In fact, drugs and equipment are easy for donors to provide, but they must often rely on complementary domestic human resources to deliver those inputs, even if their wages can be paid with donor funds. Many of the potential inefficiencies of donor funding for HIV/AIDS involve the (re)allocation of domestic resources that can accompany foreign assistance inflow. We examine a number of these mechanisms in this section.

² This quote was reported on the website <http://www.csmonitor.com/2006/0601/p06s02-woaf.html?s=hns> , June 1, 2006, and attributed to Bernard Rivers of AIDSPAN, a Global Fund watchdog group.

Concepts of inefficiency and distortions

Surges in donor contributions to HIV/AIDS funding will likely impact the availability of other resources, both foreign and domestic. In assessing the size and impact of HIV/AIDS inflows, it is important to at least try to account for these concurrent adjustments, some of which may offset the impact of the initial inflow, while others could augment it. In addition, for a given net resource envelope, the pattern of resource allocations across sectors within the economy can change, depending on how donor funds are delivered. Finally, the productivity of increased donor resources can depend acutely on country circumstances, which donors may find difficult to influence, such as absorptive capacity, rent-seeking behavior, and corruption.

In this context, it is useful to carefully distinguish between alternative notions of efficiency. On the one hand, inputs are used with *administrative* and/or *productive efficiency* when at least some of the whole array of outcomes achieved – measured, for example, by the number of HIV/AIDS patients on ART, the number of new infections avoided through behavior change, the number of expectant mothers tested, etc. – cannot be increased with a reallocation of the inputs, without cutting back on others. Often in developing countries, administrative inefficiency is identified with “duplication of efforts and a general lack of coordination” (Serieux, 2008, p. 24).

The challenge for donors and recipient governments is to discover and adopt the organizational reforms that would allow them to do more with the same resource envelope. This obstacle is not faced just by the National Aids Councils (or equivalent), or by the ministry of health more generally, but pervades the whole of the public sector. In principle, all concerned parties should be able to agree on changes that improve the administrative and/or productive efficiency of resource allocations, unless some agents profit for the existing distortions. Politicians and bureaucrats in recipient countries, and donors themselves, may well be in such a position, and resist reform.

A complementary notion of how well resources are being used is that of *allocative efficiency*. Loosely speaking, the use of inputs is allocatively efficient if “the right” outcomes are being generated. It is not enough that a country might be achieving, say, as high a rate of condom use as is possible, given the number of patients on ART (an outcome that could well be productively efficient): allocative efficiency requires that the *mix* of avoided infections (from condom use) and increased life expectancy of HIV-positive individuals (on ART) is deemed appropriate. This trade-off is one that reasonable people can disagree about.

Much of the at times vociferous debate surrounding the optimal size of donor commitments (Sachs?), the appropriate degree to which aid should be absorbed (IMF, 2007), the allocation of absorbed aid across sectors such as health, education, and infrastructure (Jack, 2007), and across different diseases within the health sector (Shiffman, 2008), reflects the ambiguity inherent in the measurement and judgment of allocative trade-offs. At the same time, some donor requirements, such as the Global Fund’s “principle of additionality”, are attempts to guide recipient governments towards

one (possibly allocatively efficient) outcome over another. For example, a country might respond to an increase in HIV/AIDS funding by shifting domestic resources out of ART and into, say, primary health care. The net effect of the inflow could be a less than one-for-one increase in HIV/AIDS funding, and an increase in primary health care. If the country is forced to retain previous levels of domestic funding for ART, and if primary health care spending does not change, then the outcome is simply a one-for-one increase in HIV/AIDS spending. Both of these resource allocations are allocatively efficient - indeed, there is nothing particularly inefficient about the “crowding out” of domestic HIV/AIDS spending under the first scenario. We can only assume that country decision makers prefer that arrangement to the one backed by the donor.

We might not be so ambivalent about other potential shifts in domestic resources. If donor inflows for HIV/AIDS lead to a reduction in domestic spending on the disease, and an increase in military spending, we might lament the outcome. There is an uneasy tension between the desire of donors to grant project ownership to countries on the one hand, and the perceived need to maintain some control over the use of funds if they do not share the same preferences, on the other.

Some authors have voiced concerns that donor inflows, far from crowding *out* domestic spending, can end up sucking resources *in* to the treatment and management of the disease (see for example Garrett, 2007). This could happen for two reasons: the first relies on a threshold effect, or increasing returns argument, and the second on the complementarity between donor-financed imports (e.g., ARVs) and domestic non-traded goods (e.g., labor). Under the first, a country that, without donor funding, would find the set-up costs of attacking HIV/AIDS prohibitive, may be pushed over a tipping point, after which the return to domestic spending increases.

Alternatively, ARVs made available by donors might increase the productivity of domestic spending (e.g., on health workers) on HIV/AIDS, thereby crowding in domestic resources. The role of donor constraints and conditions must be recognized in this argument however: if the country is simply given (untied) foreign exchange, it may choose to import a wide variety of goods, but if it is “forced” to import ARVs, then domestic HIV/AIDS spending becomes more attractive. This suggests the need for a more nuanced consideration of the effects of tied aid.

Effects of tied aid

Donor funding for HIV/AIDS treatment and control, virtually by definition, comes with a variety of strings attached. For example certain proportions of PEPFAR funding are channeled to particular forms of prevention,³ and ARVs purchased with PEPFAR funds must conform with certain quality standards. Similarly, although countries requesting

³ Fifty-five percent of PEPFAR funds are earmarked for treatment, 20 percent for prevention, 15 percent for care, and 10 percent for orphans and vulnerable children (OVCs). In addition, one third of prevention funds must be spent on ABC (Abstinence, Be faithful, Condom use) programs.

Global Fund resources are required to prepare their own plans, they are meant to abide by the principle of additionality, to ensure that GF funds do not displace other resources that would have been committed to HIV/AIDS and the health sector.

We characterize the diverse array of conditionality clauses into three categories, and examine the potential impacts each has on the allocation of domestic resources and health outcomes.

1. In-kind aid: The conditions attached to HIV/AIDS funding could stipulate that certain imports (e.g., ARVs, condoms, etc.) should be purchased, perhaps at certain prices. This form of conditionality amounts to in-kind donor assistance, and in its pure form, would allow countries discretion as to if and how they chose to reallocate domestic resources in response to the in-flow.
2. Conditional on-budget support: Donor in-flows could be explicitly conditioned on a reallocation of domestic resources, such as the creation of a National AIDS Council, the reform of budgetary procedures, and the reallocation of public spending priorities towards HIV/AIDS. Donor funds now act simply as compensation to policy-makers for making choices that they might not otherwise have made, and can be used in principle to purchase any imports, including but not limited to ARVs and other HIV/AIDS-related inputs.
3. Off-budget interventions: Under this regime, donors circumvent the budgetary process and fund NGOs to enter the domestic market themselves. A reallocation of domestic resources is then effected when the NGOs purchase these with donor funds. NGOs who compete for scarce domestic resources – in particular, domestic human resources – might significantly bid up prices, reducing the net impact of the donor funds disbursed.

Below we discuss the possible efficiency effects of these alternative conditionality regimes.

Achievable health improvements

To frame ideas, suppose a government receives no foreign assistance for health spending, and it allocates budget resources in order to achieve improvements in two health indicators, improvements in HIV/AIDS (measured in some quantifiable way) on the one hand, and improvements in other health outcomes (this could include age-specific mortality rates, malaria prevalence, immunization rates, etc., or a combination of these) on the other. Suppose also that improvements in the two indicators can be achieved with a combination of health workers and imported medical supplies – call them “doctors” and “drugs”. Given an existing health resource envelope, and very high prices of anti-retrovirals (ARVs) relative to other drugs, the country might find it desirable to spend virtually nothing on HIV/AIDS, and to devote all its revenues to improvements in the other health indicators (see point A in Figure 1). Absent significant spillovers from

HIV/AIDS treatment and care to other diseases, few doctors would be recruited to work on HIV/AIDS programs.

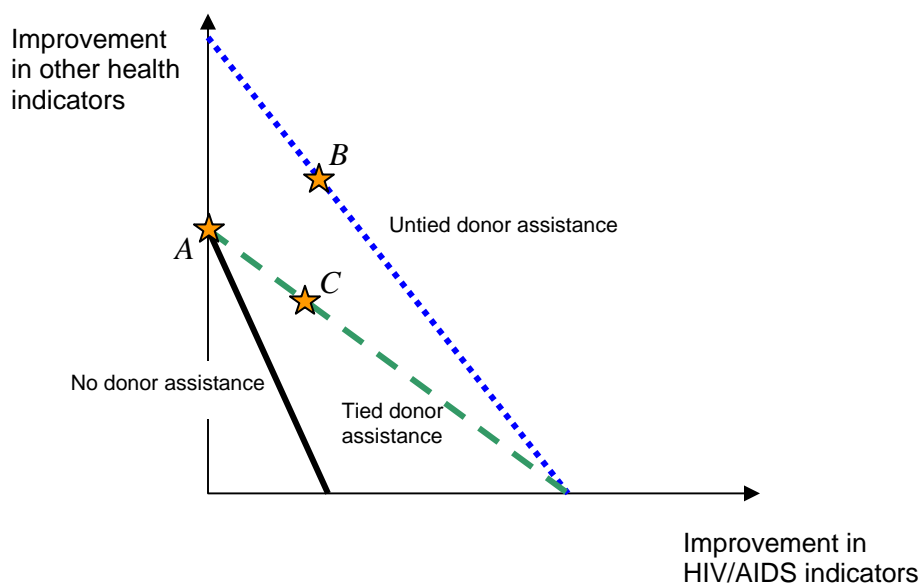


Figure 1: Potential health improvements under tied and untied health sector aid

With no donor assistance, a country chooses among health outcomes along the solid line, and may choose to focus on “cheap” diseases and devote none of its own resources to HIV/AIDS, at point A. With untied donor assistance, it chooses among outcomes on the dotted line, shifts some domestic resources into HIV/AIDS, and imports some non-HIV/AIDS drugs and vaccines, improving both HIV/AIDS and other health indicators, at point B. With tied aid, its options are along the dashed line: some domestic resources are shifted into HIV/AIDS programs, but non-HIV/AIDS health indicators suffer, at point C.

Untied aid and health improvements

Now suppose donors provide a large influx of foreign exchange to the health sector as a whole, but not tied to HIV/AIDS or any other disease. The impact of such an injection of funds would depend on the link from doctors and drugs to health improvements in the two sub-sectors. For example, suppose imported drugs for other health problems (malaria, TB) and vaccines for childhood illnesses are very cheap, but that the supply of doctors inhibits their widespread use. Then donor funds can do little to improve these other health outcomes – they might be used to pay doctors, but they cannot increase the supply of doctors in the country.⁴ On the other hand, if the constraint, or *bottleneck*, that impedes improvements in other health indicators is a limited capacity to purchase imported inputs, then donor assistance can lead to such improvements. Similar relationships between doctor services and imported drugs (ARVs) govern the extent to which donor funds can improve HIV/AIDS indicators, although the bottlenecks in this sub-sector may well differ from those in other areas.

⁴ If doctor salaries can be increased, then there might be less out-migration, thereby increasing domestic supply. There may also be supply responses in the long run, but we will focus on short term effects.

It is likely that the country would choose to allocate some of the aid money to each sub-sector: HIV/AIDS programs would be rolled out by importing ARVs and reassigning doctors from other sectors, while additional drugs and vaccines for other diseases would be imported, and administered by the doctors who remain in those sub-sectors (see point *B* in Figure 1). The net outcome is most likely an improvement in indicators for both HIV/AIDS and other diseases.⁵

Such a response to the inflow of resources is efficient. It may be that collectively, donors have objectives that differ systematically from those of aid recipients – e.g., they may have strong reasons to fight HIV/AIDS due to perceived possibilities of cross-border externalities, or simply because it has become a high-profile disease – but this does not mean that decisions made by countries are inefficient. They are just different to those the donors might make.

Conditional aid and health improvements

Nonetheless, donors may respond by giving countries less discretion over how they spend aid to the health sector. As an extreme case, suppose that the same funds were made available, but that they could only be used to import ARVs. In this situation, the country will likely find it desirable, given the constraint on how donor funds can be spent, to reassign a significantly larger number of doctors and other health workers into the HIV/AIDS sub-sector, compared with the reallocation of human resources when it was able to choose how to expand imports of all drugs and vaccines. The *unambiguous* result is that progress on fighting other diseases must fall: the country has shifted human resources out of those sub-sectors, but has not been able to offset this with an increase in imported non-HIV/AIDS inputs. In the absence of underlying productivity gains, non-HIV/AIDS health outcomes fall behind (point *C*, Figure 1).

Improvements in HIV/AIDS indicators relative to the outcome with untied aid could go either way, but the net benefits to the country are unambiguously lower when aid is delivered in this way, simply because the combinations of potential improvements in HIV/AIDS and other diseases are reduced when aid is conditional.

If a recipient country were to devote a non-negligible amount of its own resources to HIV/AIDS programs in the absence of donor assistance (i.e., if point *A* in Figure 1 were along the solid line), then there would be no inefficiency associated with “tying” a *small* amount of donor assistance. The reason is that starting from such a point, the recipient should be indifferent between spending a little more money on HIV/AIDS and other diseases.⁶ There are two conditions under which the inefficiency of tied aid is important however: first, when it is “large,” and second, when the country would, without aid, spend virtually nothing on HIV/AIDS. Both of these conditions appear to describe many countries that now receive HIV/AIDS in-flows.

⁵ Technically it is possible that the shift into HIV/AIDS is large enough that progress on other disease priorities falls, but this is unlikely.

⁶ Technically, this is a statement of the so-called envelope theorem.

Finally, the assumption that, in response to in-kind aid, no resources are moved out of the health sector to other budgetary priorities such as education and infrastructure is a strong one. In Uganda, following a large inflow of Global Fund resources in 2002, the Ministry of Finance reduced the health budget considerably (IMF, 2005). The impact of the external HIV/AIDS transfer in such a case could be (a) a shift out of primary and other health care into HIV/AIDS treatment, and (b) improvements in infrastructure, illustrated in Figure 2. In effect, we can think of the Global Fund as financing increased spending somewhere outside the health sector, and the expansion of HIV/AIDS programs as being financed by reductions in other health spending.

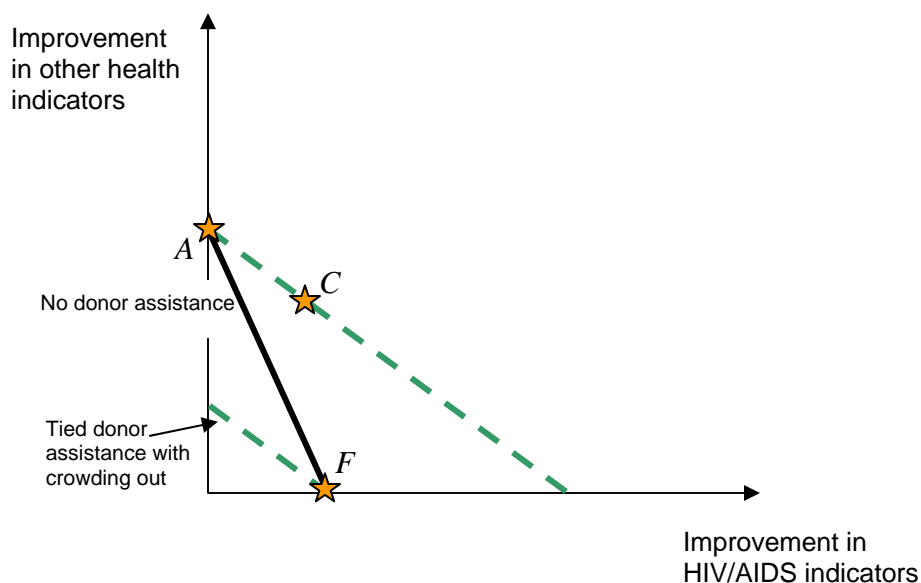


Figure 2: In-kind HIV/AIDS aid, with crowding out of other health spending

In-kind aid for HIV/AIDS with no crowding out of health spending leads to point C. But if other health spending is reduced, non-HIV/AIDS services could collapse, to point F. Other outcomes of public spending (education, infrastructure, military) would increase, but are not shown on the diagram.

Price effects

In the discussion above, it was assumed that domestic resources (doctors) could be shifted from one activity to another by administrative fiat. In a health sector dominated by the public sector, this might be a useful model. But, as we report below, much of HIV/AIDS funding from donors is channeled through the private sector. The choice between public and private delivery systems is important, and we believe non-trivial. Both faith in the market, and suspicion thereof, should give way to empirical observation.

The motivation for directing donor funds through private organizations (NGOs, FBOs, etc.) is, typically, that incentives for good performance are somehow likely to be better there than in the government, and that the exercise of corruption and fraud might be relatively limited. The question of which kind of delivery mechanism is less susceptible to the leakage of funds is central to the choice of financing mechanism, but here we focus

on a different effect that induces a potential trade-off: the impact of supplier competition on domestic input prices. In particular, can some forms of delivery mechanism end up costing more than others because doctors' salaries and other local costs escalate?

Let us use Figure 3 to understand the potential effects of the delivery of HIV/AIDS services through the private and NGO sectors. With no donor assistance, the country devotes no domestic resources to HIV/AIDS, at point *A*. If a donor provides aid in-kind (ARVs), then the dashed line represents the opportunities faced by the country, and it will shift domestic resources into HIV/AIDS, to point *C*. (If the country was to buy both ARVs and inputs for other diseases, it would locate at *B*.) However, the donor may have different preferences to the government, and aim for even greater improvements in HIV/AIDS than the government would choose. The donor might then provide the ARVs, but also impose the condition that the government shifts enough domestic resources into the sector so as to move towards point *D*.

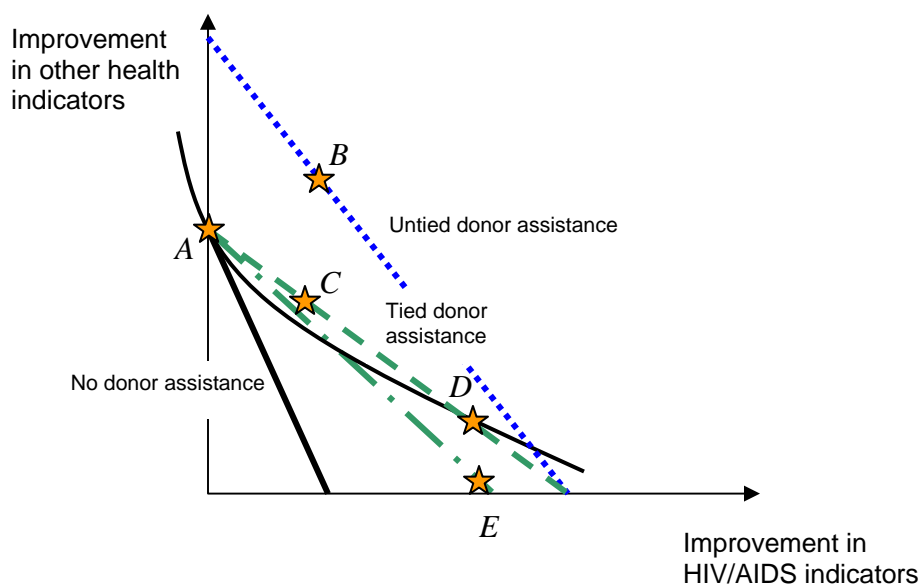


Figure 3: Efficiency of on-budget and off-budget aid

The donor has some leverage over the recipient until point *D*, because the government is better off accepting the tied aid than rejecting it.⁷ However, point *D* is as far as the donor could push the country down the dashed line before it rejects the donor assistance. Once again, if the recipient government can reallocate domestic resources at will, there is no additional financial cost imposed by the donor. There is a suggestion that this kind of reallocation might have occurred in Kenya, where public sector doctors have moved into government HIV/AIDS programs, because the working conditions there, including drug

⁷ The government prefers all outcomes above the curved line in the Figure, but prefers the status quo, point *A*, to all points below the curved line.

availability, are superior there. Explicit wage increases may not be necessary if working conditions, which have been found to be important determinants of physician labor supply (Chomitz et al, 1998, Mangham and Hanson, 2007), are affected by aid-financed imports of ARVs, etc.

If the donor resources are delivered through NGOs, an additional cost could be incurred. To start, suppose NGOs are given the same quantity of ARVs to distribute, but must purchase complementary domestic resources. Competition for these resources among NGOs, who might be under pressure to show results in order to continue to receive donor funds in the future, can easily bid up their prices: in the case of domestic human resources, health worker wages increase above public sector levels. These extra costs must be financed by donor funds, reducing the amount available for ARVs. The result is that the health opportunities available to the country shrink even further, and in order to reach the (donor) desired level of HIV/AIDS indicators, the country would end up at point *E*, much worse off than without the aid.

We have little in the way of hard data on health worker wage rates and other input prices. However, it has been speculated that NGOs are paying a wage six times the prevailing government rate in Rwanda, and that NGOs are paying even more in Uganda. Such wage differentials have potentially enormous effects on labor supply – anecdotal reports suggest that very large proportions of newly graduating physicians get jobs in HIV/AIDS.

Absorptive capacity

Other bottlenecks, collectively classified as absorptive capacity constraints, can reduce the productivity of donor assistance. The term suggests the image of a sponge, unable to hold the torrent of foreign aid that is poured in to a country: such funds need to be well-managed and monitored in order to be effective, and the associated administrative procedures require skilled and motivated staff, as well as computing and accounting infrastructure. The infrastructure may be easy to import, but the staff are not.

Just as imported drugs and vaccines without skilled and motivated doctors to deliver them might have little impact on health, donor funds without transparent and effective budgeting and accounting procedures are unlikely to deliver results. However, donor policies may be exacerbating these problems, as many countries face a growing multitude of donors, each with its own budgeting and reporting requirements. To comply with the often complex and differentiated administrative tasks required by donors, staff need to be reassigned from other jobs, such as in public administration. As a result, the efficiency of public budget management could fall. The larger and the more complex the inflow of donor funds, the more public budgeting will suffer and the less effective will be any given administration of donor funds.

A government's incentive to reallocate staff in the direction of administering donor funds may be too strong. Ideally, it would trade off the improvement in social outcomes associated with each use of limited administrative resources. However, if the supply of

domestic resources (from tax revenues, for example) is less responsive to government performance (service delivery, etc.) than is the supply of donor funds, then such resources might be excessively crowded in to donor programs. Countries may pile administrative resources in to donor projects in fear of losing the money, while domestically-financed projects suffer. This is a perverse effect of strong enforcement of complicated donor monitoring and reporting requirements, but has been long-recognized in the theory of multi-task agency.⁸ Giving an agent (the recipient government) strong incentives for one task (administration of donor funds) and weak incentives for others (domestically funded programs) leads inevitably to skewed performance.

Indeed, the stronger the performance incentives donors give, the bigger is the likely negative impact on domestic projects. The problem is not that incentives are too strong, but that they are poorly designed: the fixed and limited supply of administrative capacity performs multiple tasks of managing domestic and donor funds, and they need to be given incentives to carry out *both* these functions. If donors credibly threaten to close the aid faucet, then domestic performance may suffer. Of course, the larger the donor funds at risk, the weaker the incentive is to manage domestic resources.⁹

This discussion focuses on altering the supply of skilled workers in the management of donor funds, and the consequences of having a limited number of such workers available. But the incentives and motivation of labor are also important, and these may be more easily changed, in the short run, than the supply of workers. The challenge is for donors to provide strong incentives for the productive use of aid without bleeding the public sector of its administrative talent. Rwanda has recently begun paying health facilities using a performance based financing (PBF) arrangement, which gives facility administrators and staff high powered incentives to deliver services. The hope is that this will improve the productivity of donor (and domestic) funds, which can be interpreted as an increase in absorptive capacity.

Can donor support for HIV/AIDS hurt?

The inefficiencies of tied aid, and its attenuated productivity in the face of absorptive capacity constraints, means countries might not achieve the full potential afforded by donor largesse. But can large donor inflows actually reduce country welfare? At first sight this seems unlikely – if the funds were to reduce welfare, a rational policy maker would simply refuse them.

⁸ See Holmstrom and Milgrom (1991).

⁹ Donors and countries recognize this problem. Poverty Reduction Strategies (PRSs) aim to co-ordinate donor activities in order to reduce administrative burdens on countries. Also, some donors aim to provide incentives for overall good governance, not focused solely on the specific donor-financed projects.

HIV/AIDS funding and Corruption

In 2005, the Global Fund for AIDS, Tuberculosis and Malaria suspended grants to Uganda following an audit by the local fiduciary agent responsible for monitoring grant implementation that suggested that funding was being mismanaged at the country level. Following the suspension an inquiry into the mismanagement was launched and as of March 2008 those implicated in the wrong-doings were on trial in Uganda. The GFATM reinstated funding to Uganda following the launch of the inquiry. A recent study of the patterns of corruption in Uganda has suggested that GFATM money may have been used to finance election campaigns in Uganda (Tangri and Mwenda, 2008).

Corruption has also been identified as a major barrier to the rollout of health services financed by donors in Cameroon. In March 2008, the former Minister of Health and other government officials were arrested in an anti-corruption sweep and accused of siphoning upwards of \$20 millions of donors funds donated for AIDS, Tuberculosis and Malaria.

But this “revealed preference” argument implicitly assumes that decisions about acceptance and management of aid flows are made by a single, rational individual, or at least by a well-functioning institution that efficiently aggregates the preferences of individuals who make up the recipient society. Evidence from the “resource curse” literature suggests caution however: at a more macroeconomic level at least, large increases in revenues – either from resource discoveries or aid inflows – can indeed choke off economic growth (see Collier, 2007, for a review). The question is, can this happen at the sectoral level, as resources flow into health in general, and HIV/AIDS in particular?

Resource and foreign aid windfalls can be a curse on an economy, reducing the rate of income growth, if individuals and groups find it in their interests to fight over the revenues. Civil conflict can ensue, such as in Somalia in response to food aid flows (Maren, 1997), or less visibly, in the case of financial support channeled through the budget, rent-seeking activities on the part of politicians and bureaucrats can dissipate not only the aid revenues, but also existing public resources. A war of attrition fought with bribes and kickbacks can be nearly as disastrous as one fought with guns.

If aid does not lead to explicit conflict, it might still reduce growth by weakening accountability mechanisms, if citizens feel it is not their money that is being stolen by corrupt politicians. For similar reasons, the incentives to undertake painful but necessary reforms might be attenuated by aid flows, which reduce the urgency of reform. Are politicians likely to be more, or less, accountable for the way they manage narrowly targeted aid? And is such aid likely to induce more, or less, reform procrastination?

On the one hand, it is arguable that fewer people – in particular, primarily those living with HIV/AIDS - will feel a sense of entitlement to donor funds directed to HIV/AIDS than to general budget support; but on the other hand, those who do perceive the funds to be “theirs” may have a stronger sense of entitlement than otherwise, so the net impact on accountability is ambiguous. To the extent that people living with HIV/AIDS are less empowered than others, accountability may fall. However, HIV/AIDS affects people across the whole of the socio-economic spectrum in Africa, so one might assume that potential beneficiaries are, as a group, just as empowered as the population at large.

Volatility and predictability

Donor resources are notoriously variable and unpredictable (Bulir and Hamann, 2003), and each of these features has its own costs, which are again proportionately higher when the absolute amounts are large.

Even if the pattern of future aid receipts were known with certainty, year-to-year variation imposes costs on a country compared to the same net inflow smoothed over time. These costs can come from disruptions to either spending, or to domestic revenue mobilization. On the spending side, interruptions to service delivery – ART, counseling, education, etc. – could result not only in the loss of current benefits, but could depreciate the value of previous services. For example, suppose management of an individual case of the disease requires monitoring of CD4 counts and viral loads for a year, followed by treatment with ARVs. Funding the first year and not the second would be little better than doing nothing. Similarly, if HIV/AIDS counseling is effective only if delivered for (say) two years, interruptions to funding, even when anticipated, can have large costs.

Governments can try to compensate for the variation in donor support by securing funds from other sources, but this can lead to other costs. For example, public finance theory tells us that raising taxes imposes certain distortionary costs on an economy, in addition to the revenue raised. Importantly, however, these costs increase *more than proportionally* with the size of the revenue requirement, so it is better to raise a small amount of revenue every year than to raise large amounts every now and then. But the latter strategy is just what variability of donor funding requires.

An alternative strategy is for the government to smooth the use, if not the inflow, of donors funds itself, most easily by depositing some of the funds received in good years at the Central Bank, and drawing down on these reserves in bad years when donor funds do not materialize. Interestingly, the IMF often imposes exactly such requirements with regard to the resources it provides on some countries: a recent evaluation (IMF, 2007) shows that on average, countries in sub-Saharan Africa added 37 percent of anticipated aid increases to foreign reserves. More strikingly, this average figure masked significant heterogeneity: countries with reserves amounting to more than two and a half months of imports absorbed virtually all of their additional aid, while the rest absorbed nearly none (5 percent).

But saving donor in-flows is itself costly. First, money in the bank does not save the lives of people who are about to die of HIV/AIDS, and second, countries might face strong incentives to spend the money, even if it is efficient (perhaps in terms of some trade-off between current and future lives saved) not to spend the money. When donors measure performance on the basis a country's ability to spend money, prudent medium-

to long-term financial management might be erroneously punished with a withdrawal of future funding.

While volatility of aid flows has its costs, the *uncertainty* surrounding this volatility imposes additional burdens, and seems dreadfully inefficient. The tragedy is that the *sources* of the risk in this case – donor countries and international financial institutions – are precisely those agents and institutions that are in the best position to *alleviate* risks to which poor countries find themselves exposed. Poor planning and coordination of aid flows can exacerbate underlying risks, rather than smoothing the associated fluctuations. A perverse result of this is that aid funds that *could* be used productively in the fight against HIV/AIDS, might instead end up being saved as a means of self-insurance. Perhaps the best way that donors can induce the IMF to lower its restraints on aid-absorption is to credibly commit to stable sources of finance.

Some evidence on aid flows for HIV/AIDS

In the remainder of the paper, we present data from a number of sources in an attempt to shed light on the extent to which the distortions identified may have arisen. This turns out to be an incomplete exercise, as the data we have been able to compile are not rich enough to address this issue precisely. Some suggestive trends and patterns however emerge.

General Trends in HIV/AIDS Donor Financing

International financing of HIV/AIDS prevention, treatment, and care programs in low-income countries, in particular in sub-Saharan African countries, has grown tremendously in recent years. While part of this trend can be explained by the fact that the total amount of ODA committed by donors has increased (see Figure 4), it is also because HIV/AIDS programs are receiving an increasing share of overall ODA. Over the past decade, while the share of ODA committed to Sub-Saharan African countries for health and population programs increased only slightly, the share of health and population aid earmarked for sexually transmitted infections (STIs), mainly HIV/AIDS programs,¹⁰ increased dramatically (see Figure 5). Shiffman (2008) has also found that while the level of funding for most major health areas increased over the past decade, HIV/AIDS now occupies a much larger share of all health and population funding, and suggested that HIV/AIDS funding may have crowded out funding for others health programs, in particular reproductive health programs.

¹⁰ The OECD's Development Assistance Committee includes HIV/AIDS funding under sexually transmitted infections, which it considers part of 'population' funding. Malaria, TB, and most other health related programs are included in 'health' funding. We therefore consider all health and population funding to be total health funding. To our knowledge, HIV/AIDS represents the vast majority of total STI funding in recent years.

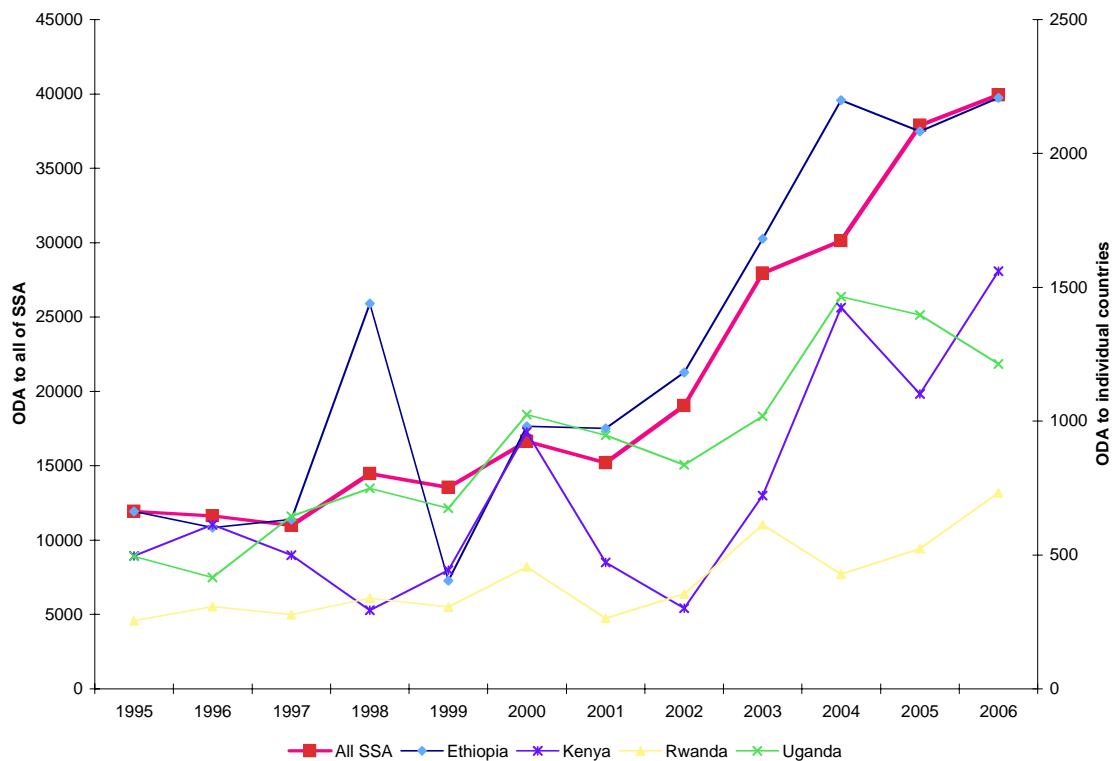


Figure 4: Trends in ODA in SSA
 Source: OECD CRS Database on Aid Activities

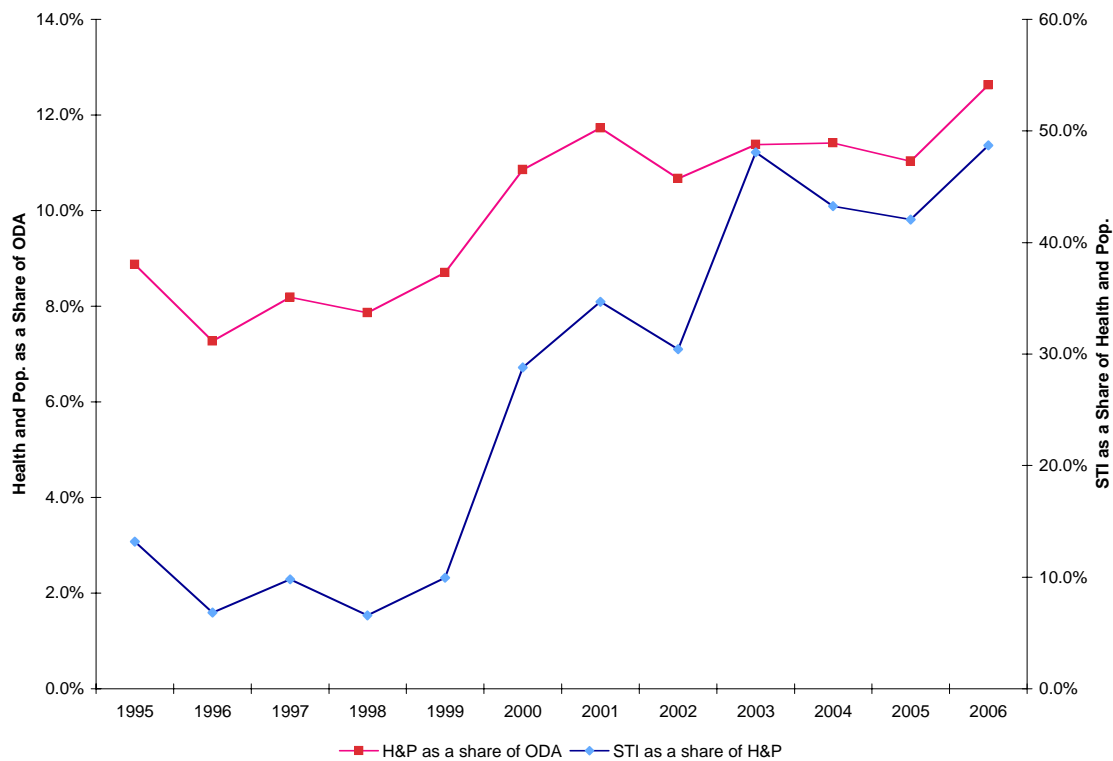


Figure 5: Changing composition of health and population ODA
 Source: OECD CRS Database on Aid Activities

ODA commitments to Sub-Saharan African countries for HIV/AIDS programs remained small and relatively constant during the second half of the 1990s but have increased dramatically since the turn of the century (see Figure 6). This increased growth coincided with a number of important international commitments to improve global health (e.g. the Millennium Development Goals), the creation of important new financing mechanisms for HIV/AIDS (e.g. the GFATM, PEPFAR), and the scale up of antiretroviral (ART) treatment programs in many developing countries. The level of international funding for SSA increased from a few hundred million dollars a year in the mid-1990s to a few billion dollars a year by the mid-2000s. In addition, donors are not only committing more funding to poor countries, but have also become more effective at disbursing committed funds to recipients (see Figure 7). Ten years ago 20-40 percent of committed donor resources were disbursed, but by 2005 and 2006 the rate was at or above 80 percent.

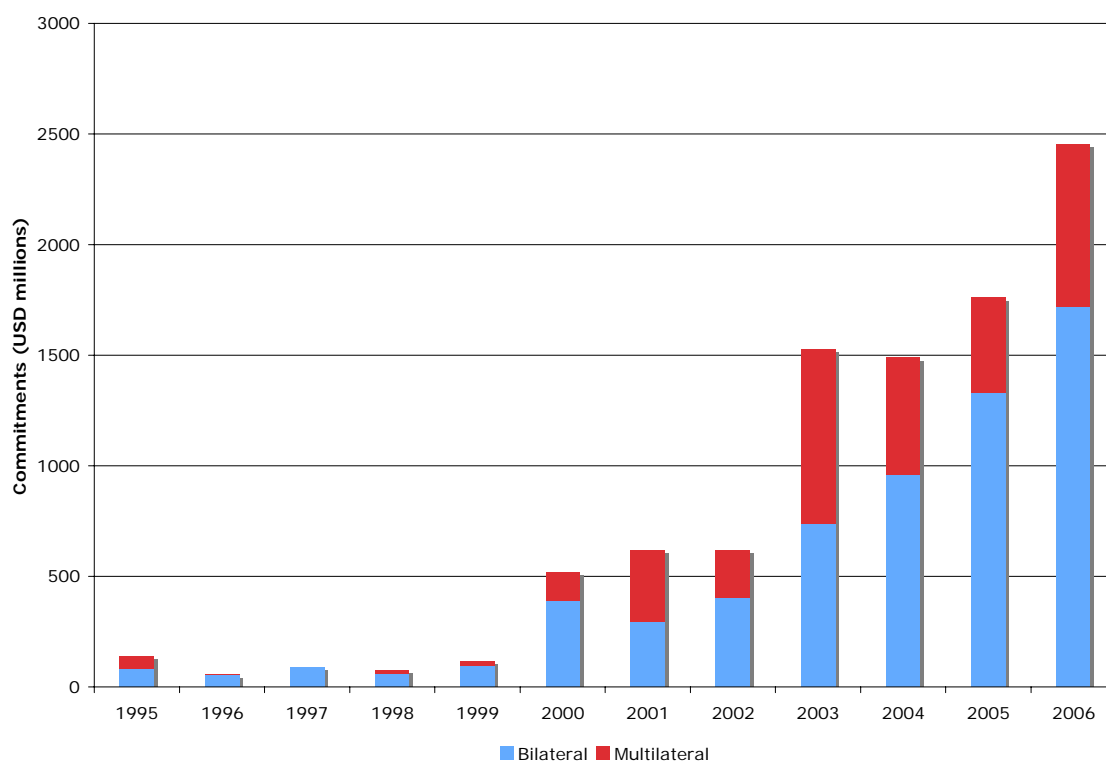


Figure 6: Commitments for STIs for SSA

Source: OECD CRS Database on Aid Activities

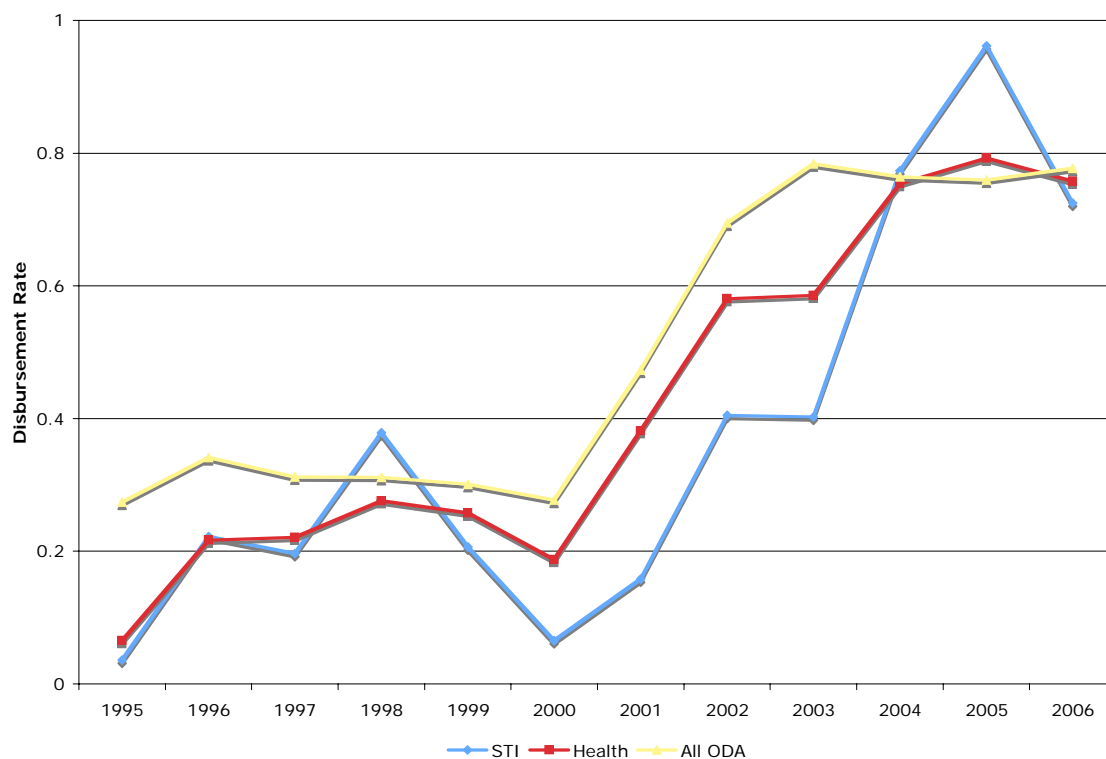


Figure 7: Disbursement Rates by type of aid for SSA

Source: OECD CRS Database on Aid Activities

The growth in HIV/AIDS financing appears to have largely been driven by increases in bilateral aid, although multilateral aid has also increased, if somewhat more erratically (see Figure 6). Anecdotally it has been reported that an increasing share of bilateral aid is being channeled into countries in ways that bypass the central government. The United States Government, through its bilateral PEPFAR program is currently, and by far, the largest international HIV/AIDS donor. PEPFAR has targeted 15 focus countries, 12 of which are in Sub-Saharan Africa. Although data on how PEPFAR funds are spent at the country level are difficult to obtain, recently released data suggest that only a very small share of total funding is allocated to governments, on average only 13% across all PEPFAR countries (Oomman et al, 2008). The majority of the funds, in particular funds allocated for treatment programs, are channeled through international and local non-governmental organizations (NGOs), faith-based organizations (FBOs), health contractors, and universities. These funds are said to be “off-budget”, and are typically not reflected in recipient government budgetary documents.

Channeling donor resources through multiple non-state institutions can fragment the demand for health workers and other domestic factors. Inevitably this increased factor market competition will lead to higher input prices, especially for factors in short supply such as skilled physician labor. While competition (in this case, among purchasers of health worker services for the delivery of HIV/AIDS programs) typically improves incentives and efficiency, when the supply of factors is fixed, at least in the short run, such purchaser competition simply has the effect of increasing costs. Health worker

wages are expected to increase more in areas receiving significant amount of money for treatment program through the PEPFAR program and may lead to more pronounced reallocation of doctors from other health programs. The empirical validity of these predictions is the subject of current research.

Much less is known about the level of domestic resources that are allocated to HIV/AIDS programs. Domestic resources include direct financial commitments in the national budget, the value of shared resources (e.g. health workers, infrastructure) utilized in part by HIV/AIDS programs, and household and other private expenditures on HIV/AIDS. Anecdotal reports suggest that there has been little increase in the amount allocated to national budgets by countries in Sub-Saharan Africa as donor funds have increased. Given the high cost of HIV/AIDS-related treatments relative to household incomes in most affected countries, it is unlikely that a substantial share of total direct HIV/AIDS resources are coming from households.

Case Examples: Kenya and Rwanda

In Kenya and Rwanda, our two case-study countries, the level of donor support for HIV/AIDS has been large relative to overall domestic resources for health. In 2002, prior to the establishment of PEPFAR and the GFATM, the WHO estimated that total health expenditures, including government, donor, and private expenditures, in Kenya and Rwanda were \$18.6 and \$8.3 per capita respectively, of which respectively \$8.2 and \$4.2 represented direct government expenditures. By 2005, our analysis suggests that Kenya and Rwanda respectively received commitments of \$4.3 and \$6.8 in STI ODA per capita. Since 2005, we believe that STI donor funding has grown much faster than government contributions for health. Therefore donor funding for HIV/AIDS in these two countries is comparable to, and may even exceed, government resources budgeted for all health programs. This evidence suggests that HIV/AIDS funding is indeed relatively large in many African countries.

To gain a better understanding of domestic resources for health we reviewed multiple government documents, including annual budgets, performance reports, and public expenditure review documents. Off-budget funds were not adequately captured in these documents; indeed, the government documents reviewed acknowledged a poor understanding of the level and use of off-budget funds. We found that since 2000 overall health funding per capita increased in both Kenya and Rwanda (see Figure 8). However, the share of total health funding coming from donors was markedly different in the two countries¹¹. While total Ministry of Health budgetary expenditures on health, including donor and government sourced revenues, were roughly the same in the two focus countries (between about \$6 and \$12 per capita) there was a big difference in the share of total expenditures coming from donors. In Kenya, this share ranged from roughly 5-15%

¹¹ The data used to compile these estimates on government and donor expenditures come from a variety of domestic documents and used somewhat different reporting methodology than the WHO's National Health Accounts reports. Therefore the figures from the government may not exactly correspond to figures reported by the governments themselves.

(except in 2006, which it reached about 35%) while in Rwanda it ranged from roughly 50-60%. In Kenya, a significant portion of the increase in total health expenditure was due mainly to increases in donor funding, whereas in Rwanda both donor and government expenditures have been increasing over this time period. Therefore while total expenditures on health have been increasing in both focus countries, and increasing share of total expenditures are coming from donors. This analysis excludes donor funds that are “off-budget” and there is good reason to believe that these revenues have also been increasing in recent years.

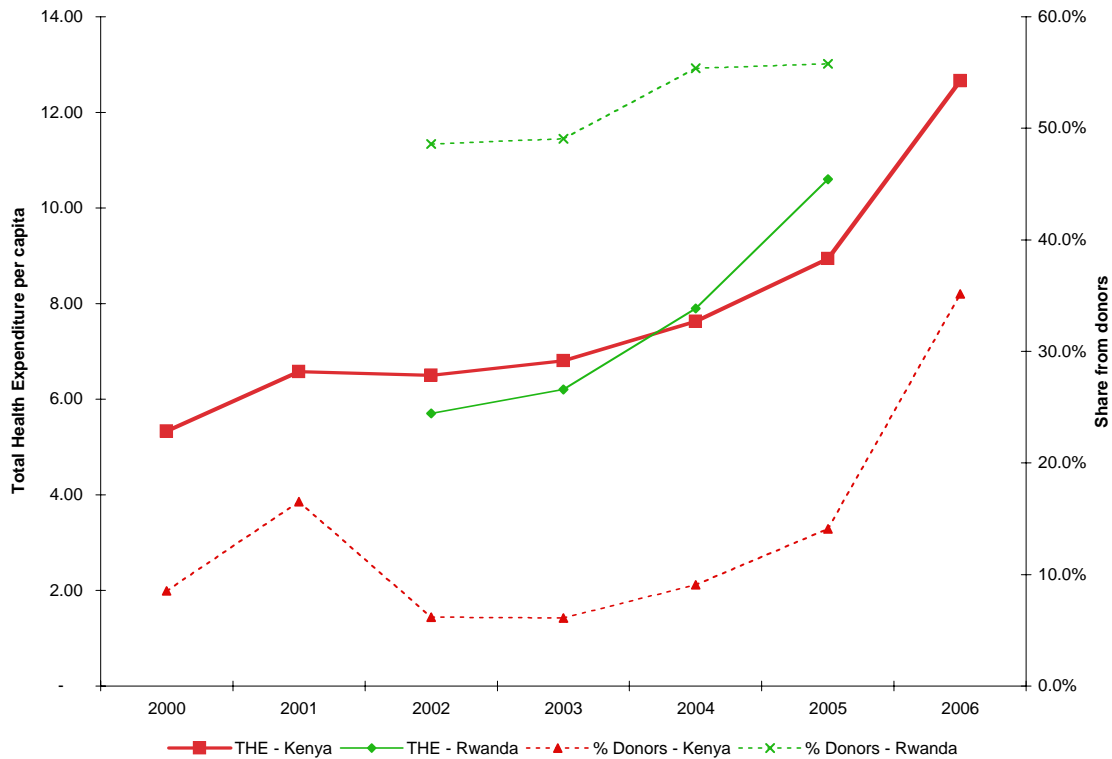


Figure 8: Total Health Expenditures per Capita and Share Externally Derived

Source: MOH of Kenya Documents; PETS (2007) and PERs (2005, 2007)

There is some evidence from Kenya that health funding represents a decreasing share of the total government expenditures (see Figure 9). In 1999/2000, health represented roughly 7-8% of total government expenditure in Kenya, but fell to less than 6% by 2006/2007. While it is difficult to say if this pattern represents a secular and continuing trend, or is due to the possibly temporary influx of money for health from donors, it is clear that the overall trend is not towards increasing the share of total government expenditures on health to 15%, as codified in the Abuja declaration.

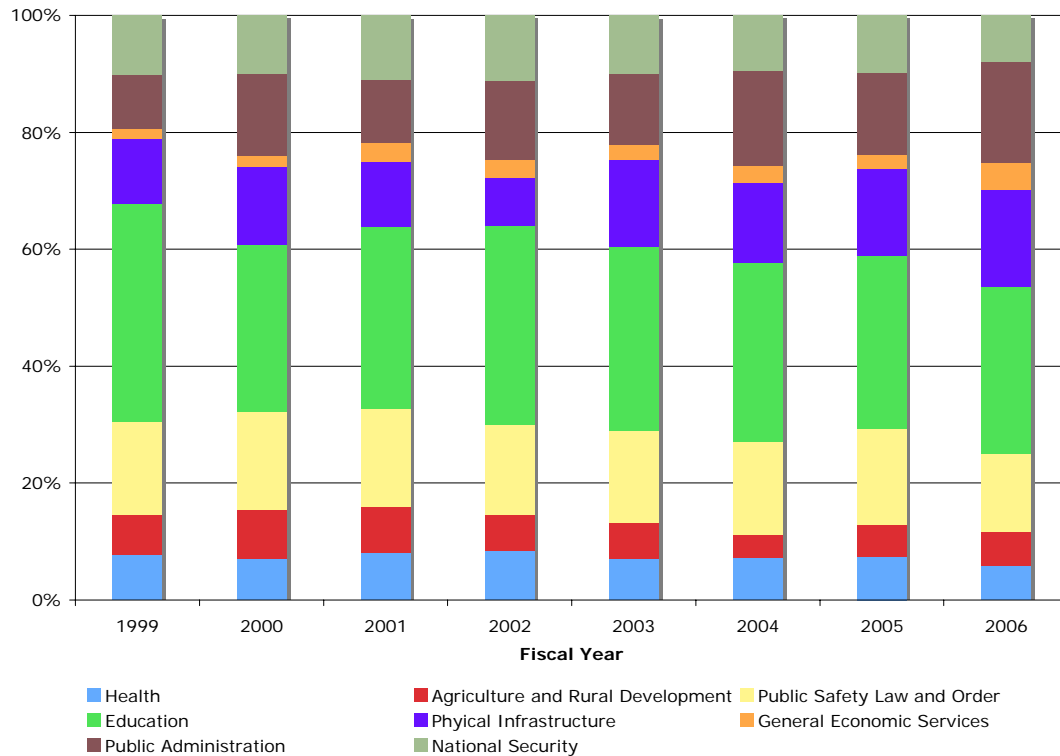


Figure 9: Ministerial Expenditure in Kenya

Source: Ministerial Expenditures, Budget Monitoring Department, MOF Kenya

Until recently, very little was known about how PEPFAR funding had been allocated among its partners at the country-level. Using data obtained by the Center for Global Development, we analyzed PEPFAR obligations to its partners to estimate the share of total PEPFAR support directly allocated to affected country governments (i.e. “on-budget” funding) and other partners. We found that the share being contracted to host governments ranged from 9.1%-12.7% in Kenya and from 4.8%-7.4% in Rwanda from 2004-2006 (see Figure 10). Our analysis also suggests that host country governments were less likely than other types of organizations to be contracted to implement treatment programs supported by PEPFAR. In 2005-2006, the share of treatment funds contracted to NGOs, FBOs, Universities, and private agencies ranged from 90-100% in Kenya and Rwanda. There also appears to be a preference for international rather than local NGOs: in 2006, nearly 100% of Rwanda’s country funds were contracted to international NGOs.

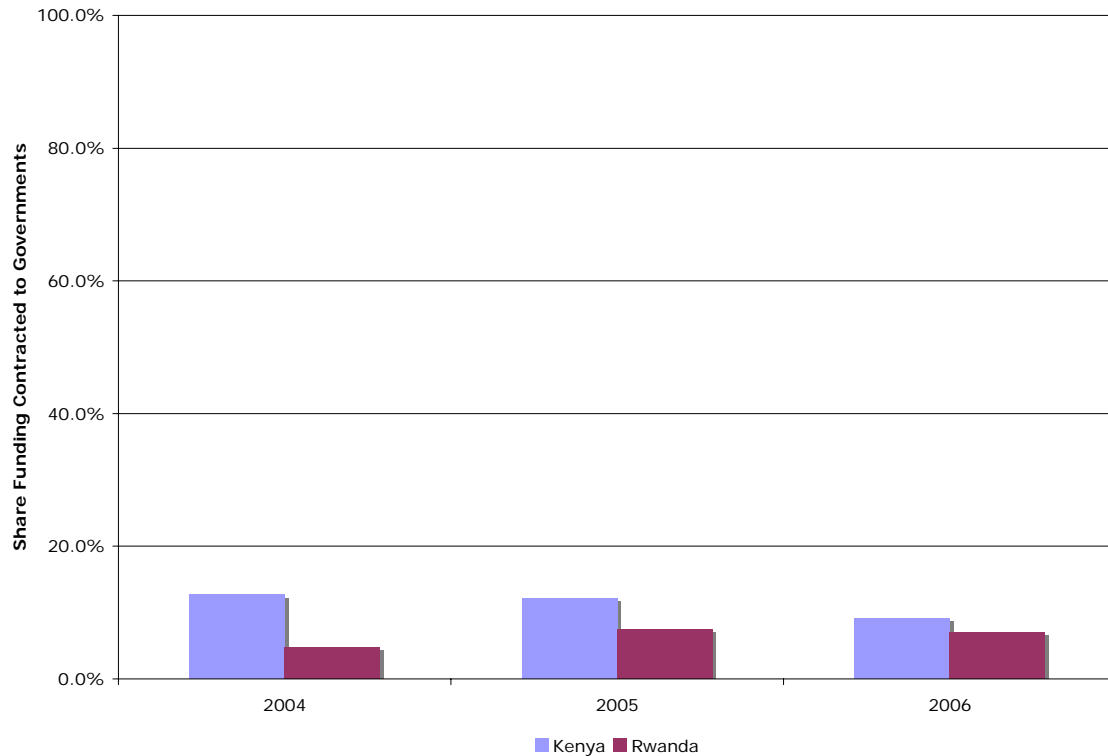


Figure 10: Share of PEPFAR funds contracted with Government

Source: Center for Global Development (2008)

In Rwanda, there is some evidence that suggests that HIV/AIDS funding may be crowding out donor support for other health interventions (see Figure 11). From 2002-2005 the share of donor funding for health and population devoted to STIs, namely HIV/AIDS, rose from 29% to 64%. This translated into an increase from about 4 billion RWF for HIV/AIDS to 22 billion RWF. All other donor support remained virtually flat at roughly 10 billion RWF in 2002 and 12 billion RWF in 2005. In terms of individual programmatic areas funded by donor support, while HIV/AIDS, malaria, tuberculosis, and nutrition programs have seen significant growth in the amount of funding received from donors, certain programs, in particular human resources and reproductive health have actually seen important declines. In 2002, donors allocated 1.4 billion RWF to human resources but this declined to just 300 million RWF by 2005.

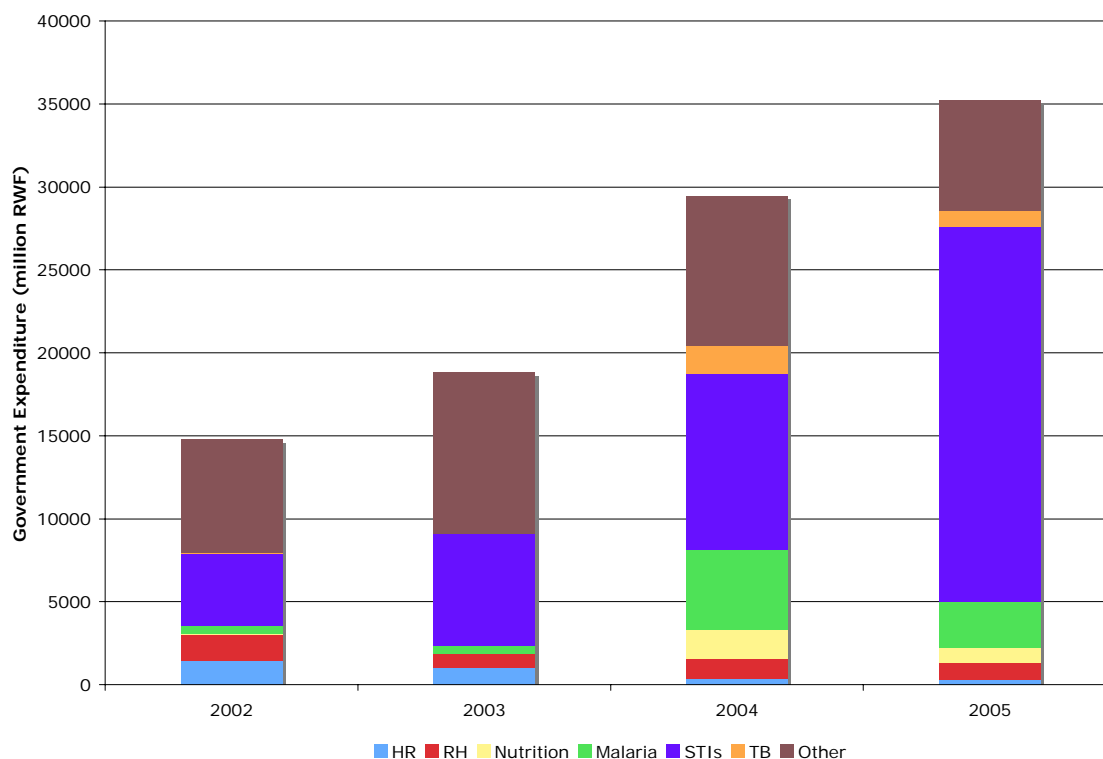


Figure 11: Government expenditure by programmatic area in Rwanda
 Source: Ministry of Health of Rwanda Documents; 2006 PER

Conclusion

The recent expansion of donor commitments for HIV/AIDS in Sub-Saharan Africa has been dramatic, both in relative and absolute terms.. While the increase has been welcomed by most, some observers have raised legitimate questions about both the focus and the impact of the new resources. Should so much money, or at least such a large share of the available money, be devoted to just one of the vast array of development challenges? And even if the focus on HIV/AIDS is warranted, does the huge inflow of resources create distortions in the domestic economy? In this paper, we have skirted the first issue of priority setting, and directed our attention to the second. We have provided a conceptual clarification of the kinds of distortions that might arise, and examined what little quantitative empirical evidence there is. Our main conclusion is that the *way* in which donor support for HIV/AIDS is delivered, not just the level, is important in determining the extent to which distortions accompany aid flows.

In the context of the framework we developed, our investigation into the revenues and expenditures for health in Kenya and Rwanda provide suggestive evidence of a number of important trends. First, it does appear as though donor funding for HIV/AIDS is indeed very large and thus has the potential to induce some of the distortions discussed

above. Second, we find that there is some emerging evidence that HIV/AIDS is capturing a greater share of attention from both donors and government expenditures and that it may be crowding out other health activities. Finally, we have also found that significant resources for HIV/AIDS, in particular those committed by the PEPFAR program are being channeled to countries in an off-budget manner. Although we were unable to identify good data on health worker wages, anecdotal evidence suggests that such wages may be driven up in countries receiving PEPFAR funding. A more thorough and detailed analysis of the potential distortionary effects of HIV/AIDS would require significantly more detailed, comprehensive, and reliable data.

We believe that the data required for such an analysis can be generated only when more sophisticated costing and accounting practices are adopted both by donors and by recipients. System-wide expenditure tracking will be important, covering both on- and off-budget institutional spending as well as private individual spending. But these expenditure surveys should also be coupled with microeconomic surveys of quantities and prices (including time use and wages) if the real allocation of donor resources, and their wider impacts, are to be assessed. On the other hand, any new data efforts should be incorporated into existing systems where possible, and be designed to benefit all aspects of health system planning.

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