# Crumbling Currencies and Public Health Interventions:

# The Case of HIV and AIDS

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## Executive Summary

There is a growing perception that countries in the developing world are experiencing sustained economic growth and getting richer. At the same time, there are indications that, at best, international development assistance (IDA) will be constant, and at worst, may decline. This has important ramifications for the health sector and is especially significant for HIV and AIDS.

Currency fluctuations can have a significant impact on the economic performance of a country. Our interest is primarily on the impact of funding for HIV and AIDS, both from the international community and domestic resources. This is particularly important where so much is spent in hard currency on drugs, test kits and other externally produced resources. In some countries over 90 percent of all the resources for HIV and AIDS comes from external sources. In others support for vulnerable and marginal groups (also known as "key populations") such as intravenous drug users (IDU) and men who have sex with men (MSM) is predominantly funded by foreign donors. Some governments actively discriminate against these groups, including denying access to services.

Countries are now under considerable pressure to find more domestic funding for their health services. In 2015, we saw the first decline in donor funding for HIV and AIDS in over five years. At the same time, we will continue to see increased resource needs as ever larger numbers of people are placed on anti-retroviral therapy (ART), which has to be taken for life.

When the bulk of resources were provided by donors, exchange rates were relatively unimportant; indeed, falling exchange rates meant donor dollars went further domestically. In 2012, for the first time ever, the majority of global funding for HIV and AIDS came from domestic sources within low and middle-income countries.[i] The growing emphasis on increased domestic financing means fluctuating currencies can cause problems. First, because donor budgets are primarily in US dollars, fluctuations in domestic currencies will make burn rates appear lower or higher than they actually are. Lower rates of spending are a particular problem for donors as they and their governments expect predictable high rates of spending in order to avoid carry-overs. Secondly, ARVs are primarily purchased internationally, in foreign currencies, which means the exchange rate of the domestic currency will have an impact on how much can be purchased and at what cost.

This paper examines the situation for HIV and AIDS funding looking specifically at the following trends:

- Economic growth in recipient, high prevalence countries and how it might influence domestic funding availability
- The increased need for money for the AIDS response and what is driving this
- The effect of currency fluctuations on funding and the impact from both the donor and recipient points of view

In the introduction to this report we stated that we would address three major questions. The first, looked at what are the consequences for AIDS budgets as a result of significant changes in the value of currencies. This answer depends on a number of factors, from both the donor and the recipient's perspectives. The value of the countries currency relative to the US dollar (and conversely the value of the US dollar within recipient countries), how much of the HIV and AIDS budget is denominated in US dollars as opposed to the local currency, and the availability of alternatives for purchasing HIV and AIDS

medicine will all have a tremendous impact on the effectiveness of the HIV and AIDS response in high burden countries.

The second question looked at how economic forecasts can be taken into consideration. Economic forecasting is an imperfect science. Donors and recipients can only predict to varying degrees of accuracy what their economic future will look like. The benefit of having these predictive models is that it allows for both donors and recipients to come up with contingency plans in the event that the economy does not perform as expected.

The final question looked at the implications in demotion or promotion of countries from income categories in the World Bank classifications. The rankings of countries in terms of income status may be affected if their currencies fluctuate. If a currency appreciates it may mean that that country will lose access to lower interest rates and easier access to money, whereas countries that see their currencies depreciate significantly may find themselves in a position of strength.

Our core argument is that the increased expectation that domestic funding will take a larger role in responding to the epidemic may be premature. Donor money is less certain than it has ever been, and there is indeed room for some countries to finance more of their HIV and AIDS response domestically, however, this is often based on assumptions about economic growth and the value of currencies that may not hold, particularly for those countries with a high HIV burden, low GDP per capita, low growth, and currencies that have declined in value. In addition, allocation of domestic government budgets is a **political** process!

## Introduction

Changes in the value of currencies can have a significant effect on economies and policy options of governments. Our interest is in currency fluctuations and the impact they have on funding for the HIV and AIDS response. We look at this from the both the point of view of recipient countries and donors. The trend over the past few years has been for recipients' currencies to fall in value. The situation for donors is more complex, but generally their currencies have lost value against the US dollar.

This issue is particularly important because so much of the money spent on HIV and AIDS is for drugs, related commodities, and other resources that require hard currency. Initially, when the bulk of resources were provided by donors' exchange rates were relatively unimportant; indeed, falling exchange rates meant donor dollars, pounds, kroner or Euro went further domestically. However, the growing emphasis on increasing domestic financing means fluctuating values of domestic currencies is causing serious problems.

Our study looks at a concurrence of factors:

1. The growing numbers of people who require treatment, especially with the 'test and treat' and 'test and prevent' initiatives
2. The consequent increased demand for goods purchased in 'hard' currency, in particular anti-retroviral drugs (ART)
3. Fluctuations in the value of currency in countries with a high HIV prevalence
4. Changes in the value of donor currencies and the impact on donors, recipients and multilateral agencies such as the Global Fund for AIDS, TB and Malaria
5. Changing donor policies which encourage or require increased domestic contributions
6. Economic forecasts of slow or even no growth in some African countries

The paper is divided into seven main sections. The background sets out the origin of the research and in Figure 1 we have developed a tool to look at the potential impact of currency fluctuations for the HIV and AIDS response. There is a short piece putting HIV and AIDS into context in Southern Africa and describing the financing of the response past and present. (Greater detail on the HIV and AIDS epidemic is provided in Appendix 1.) The paper then focuses on the role of the international community in general and on DFID in particular. The importance of domestic financing and the various commitments made is addressed. The paper then looks at exchange rates and the economic groupings in Southern Africa. The region has important links through the customs union, monetary area and SADC which could be better used in the AIDS response. Country economic outlooks set out how much responsibility individual countries can take. The paper looks specifically at currency volatility and the role of international rankings. It concludes by noting that currency was a neglected factor, that will be increasingly important.

## Nature of the Problem

*The Origin of the Research*

In 2016, we received funding from UNAIDS for a preliminary scoping of the issue. This work was presented at the UNAIDS and World Bank Economic Reference Group (ERG) meeting in late 2016, which confirmed its importance and relevance.

We were subsequently awarded funding by the Department for International Development (DFID) to take the research further, looking at the policy implications of currency fluctuations and the impact such fluctuations will have on budgets and the global HIV and AIDS response. The research is guided by the following questions:

1. What are the consequences for AIDS budgets as a result of significant changes in the value of the currencies? How will this vary from country to country?
2. How can economic forecasts be taken on board by the HIV and AIDS communities, both domestic and donor, especially those concerned with financing the response?
3. What are the implications in demotion or promotion of countries from income categories in the World Bank classifications?

Donors and recipients need a greater understanding of the role currency fluctuations can play on financing the HIV and AIDS response. Figure 1 is a preliminary tool that illustrates the potential outcomes currency fluctuations can have on HIV and AIDS financing.[2]

*The Core and a Representation of Path Dependency*

Our paper wishes to examine whether or not the growing expectation that domestic funding needs to take on a larger role in the HIV and AIDS response may be premature. We believe that this expectation has been based on assumptions about economic growth and the value of currencies that may not hold. While it is indeed possible that recipient countries may be able to increase their funding for their own HIV and AIDS response, this needs to be seen in context of what is fiscally possible. It should not be used as an excuse to simply maintain (or even worse decrease) current donor levels of funding for HIV and AIDS.

Many of the hardest hit countries struggle with a conflux of issues including: a high HIV burden, low GDP per capita, low economic growth, and currencies that have declined in value. We recognise that this is not the case everywhere so we focus on specific, high prevalence countries that are also recipients of large amounts of donor funding. Due to a significant degree of regional economic integration, particularly in Southern Africa, it is the case that many of the impacts felt by one country will be felt by its neighbours as well.

While the control of the value of currencies is beyond the Ministry of Health and donors, it is crucial to be aware of these issues as it will impact decisions over where to allocate resources and the amounts required. This study will inform policy in Ministries of Health, the donor community, and should have resonance in Ministries of Finance.

[2] This tool is in the preliminary stages of development but will be elaborated on in subsequent research

**Figure 1 – A Schematic for Understanding Currency Flows and Fluctuations**[ii,iii,iv,v,vi]

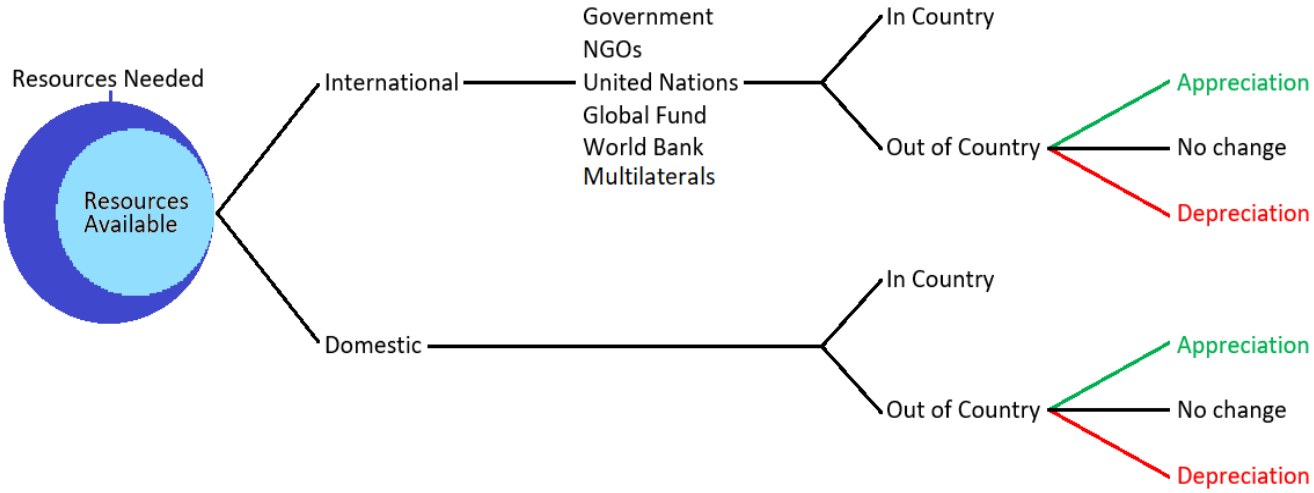



**Table 1 – Background Information: Recipient and Donor Countries**

| | Botswana | Lesotho | Malawi | Mozambique | Namibia | South Africa | Swaziland | Zambia | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|
| HIV Prevalence in 2015 (Percent)[i] | 22.2 | 22.7 | 9.1 | 10.5 | 13.3 | 19.2 | 28.8 | 12.9 | 14.7 |
| Percent of Health Expenditure from Domestic Sources in 2014[v] | 89.9 | 47.8 | 26.2 | 51.3 | 92.0 | 98.2 | 78.3 | 61.6 | N/A |
| Amount of Domestic Spending on HIV and AIDS from 2010-2015 (Percent)[i] | 76.7 | 27.5 | 8.2 | 3.5 | 64.8 | 79.4 | 34.2 | 5.7 | 13.6 |
| GDP Growth in 2015 (Percent)[ii] | -0.3 | 1.6 | 2.8 | 6.6 | 5.3 | 1.3 | 1.9 | 2.9 | 0.5 |
| Change of Currency to US$ Since 2007 (Percent)[iii] | -42.4 | -47.9 | -85.7 | -57.9 | -47.9 | -47.9 | -47.9 | -44.0 | N/A |

| | Canada | France | Germany | Japan | Norway | Sweden | United Kingdom | United States |
|---|---|---|---|---|---|---|---|---|
| Development Assistance for HIV in 2016 (US$ Millions)[iv] | 140 | 250 | 260 | 140 | 100 | 110 | 410 | 6700 |
| GDP Growth in 2015 (Percent)[iii] | 0.9 | 1.3 | 1.7 | 1.2 | 1.6 | 4.1 | 2.2 | 2.6 |
| Change of Currency to US$ Since 2007 (Percent)[iii] | -20.7 | -18.7 | -18.7 | 7.7 | -30.1 | -23.1 | -34.6 | N/A |

## HIV and AIDS

In the early years of the HIV and AIDS epidemic, (from 1981 to 1990) the scale and trends of the disease were not understood. By the 1990s, it was apparent that HIV was not going to be a problem of the same magnitude everywhere. UNAIDS and the WHO categorized various epidemiological scenarios of which two are of concern for this paper. The first is where the epidemic is generalised: where HIV prevalence is between 1–5 percent in pregnant women attending antenatal clinics. The presence of HIV in the general population is sufficient for sexual networking to drive the epidemic. The second are the hyper-endemic countries of Africa. Here HIV is above 15 percent in adults in the general population and is driven through extensive heterosexual partner relations with low condom use.

The worst affected nations, with adult prevalence above 20 percent: Botswana, Lesotho, and Swaziland, and with adult prevalence above 10 percent: Mozambique, Namibia, South Africa, Zambia, and Zimbabwe. Kenya, Malawi, and Uganda have prevalence of between 5 and 10 percent. Many of these countries also have significantly high prevalence in key vulnerable populations. Our work is of most relevance for those with the greatest disease burden coupled with high donor dependence and/or unstable currencies.

The HIV and AIDS landscape in the developed world changed considerable from 1996 when treatments were announced – ART, which would prolong the lives of those infected. The innovation was to combine different drugs, but the treatment regimens were extremely complex and expensive, $10 000 per person per year (pppy).

By 2000, the global impact of the epidemic was being acknowledged. The United Nations Security Council met to discuss the impact of AIDS in Africa and the Millennium Development Goals (MDGs) included a goal of reversing the spread of HIV and AIDS. In 2002, the Global Fund was established. In 2003, the United States President George W. Bush announced the creation of President's Emergency Plan for AIDS Relief (PEPFAR). There was increased clarity as to which parts of the world and groups of people were being worst affected. Provision of ART was helped by the dramatic falls in price of drugs, easier dosing regimens and the expansion of health services.

*The Epicentre*

Southern Africa had and continues to have the highest HIV prevalence. The Southern African epidemic data are shown in Table 2. Prevalence ranges from a high of 27.7 percent in adults aged 15 – 49 in Swaziland to 9.1 percent in Malawi.

The success has been rolling out treatment. Significant numbers of people are now on life-saving medication, but as the AIDS transition has not taken place everywhere (see Figure 2), the cumulative number of people requiring treatment will continue to rise and the cost of providing care increases. This is driven by the growth in numbers and the need to switch increasing numbers of patients to second, and where available, third lines of therapy. Uncertain economic growth and currency fluctuations are a new threat to AIDS response programmes, especially as the funding transition picks up momentum.

**Table 2 – Country Data for HIV and Currencies**

| Country and Currency | HIV Prevalence (% of population ages 15-49) (2015)[vii] | People Living with HIV (2015)[viii] | Percent of People Receiving ART (2015)[ix] | HIV Spending All Sources (US$ millions)[x] | Percent HIV Spending (Domestic Sources)[xi] | Percent Depreciation to US$ (2014-2016)[xii] | GNI Per Capita (2015)[xiii] | World Bank Ranking (2015)[xiv] |
|---|---|---|---|---|---|---|---|---|
| Botswana Pula | 22.2 | 350000 | 78 | $390 (2011) | 76.7 | 27.2 | $6510 | Upper Middle Income |
| Lesotho Maloti | 22.7 | 310000 | 42 | $94.2 (2013) | 27.5 | 27.2 | $1330 (2014) | Lower Middle Income |
| Malawi Kwacha | 9.1 | 980000 | 61 | $145 (2012) | 8.2 | 41.5 | $350 | Low Income |
| Mozambique Meticais | 10.5 | 1500000 | 53 | $352 (2014) | 3.5 | 60.6 | $580 | Low Income |
| Namibia Dollar | 13.3 | 210000 | 69 | $211 (2013) | 64.7 | 27.2 | $5210 | Upper Middle Income |
| South Africa Rand | 19.2 | 7000000 | 48 | $1880 (2014) | 79.4 | 27.2 | $6050 | Upper Middle Income |
| Swaziland Emalangeni | 28.8 | 220000 | 67 | $96.9 (2013) | 34.2 | 27.2 | $3230 | Lower Middle Income |
| Zambia Kwacha | 12.9 | 1200000 | 63 | $279 (2012) | 5.7 | 43.8 | $1500 | Lower Middle Income |
| Zimbabwe US Dollar | 14.7 | 1400000 | 62 | $253 (2013) | 13.6 | N/A | $850 | Low Income |

*Financing the Response – History*

From the beginning of the epidemic, responses to the disease in the developing world were largely funded by international organizations (IOs), non-governmental organizations (NGOs), and foreign governments. There were good reasons for the early dominance of international funding. The bulk of the science emanated from laboratories in the USA, UK, and France; and influential grassroots activism originated in the USA and UK. In addition, the early spread of HIV was silent, governments were not dealing with cases (sick people obviously requiring care), but with invisible HIV infections.

In 2017, it is clear that the resources needed for HIV and AIDS will continue to increase in absence of an affordable cure or vaccine. Improvements in treatment mean people with HIV can have close to normal life expectancy. Since prevention efforts have not been universally successful, the number of infected people requiring medicines and care continues to rise. The need will be even greater with the global consensus that HIV infected individuals should commence treatment as early as possible.

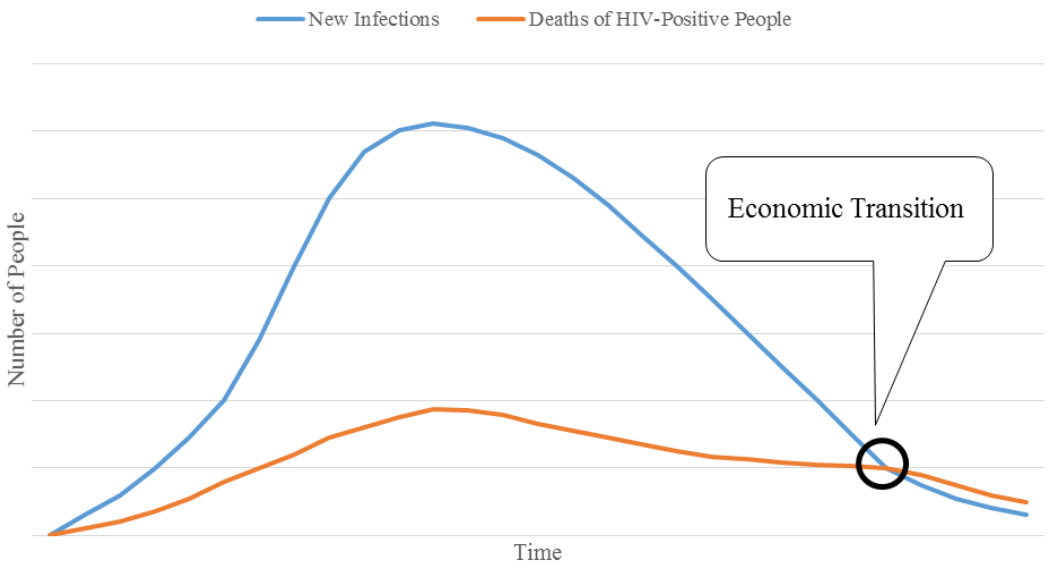
The concept of an 'AIDS transition,' developed by Mead Over at the Centre of Global Development in Washington, is blindingly simple. Figure 2 shows that, until the number of new infections falls below the number of deaths of HIV infected people, from whatever cause, the need for treatment (and therefore the cost) will rise.[3] If the lines do not cross, this numbers will grow indefinitely, as the number of people between the two lines, those infected but not dead continues to increase.[4] Once the AIDS transition is achieved, planning can be done with a high degree of certainty. Ministries of Health will know how many

[3] One potential way costs could stay the same is if treatment costs dropped significantly, however we believe this to be unlikely.

[4] This has been shown for South Africa, where projections of AIDS deaths and new infections up to 2025 show that the number of people requiring treatment will be rising then, and this trend will continue.

patients require treatment, predict demand for drugs, facilities and health care professionals, and project costs. The Ministry of Finance can predict resource needs and know these will be finite.

**Figure 2 – AIDS Transition**[xv]



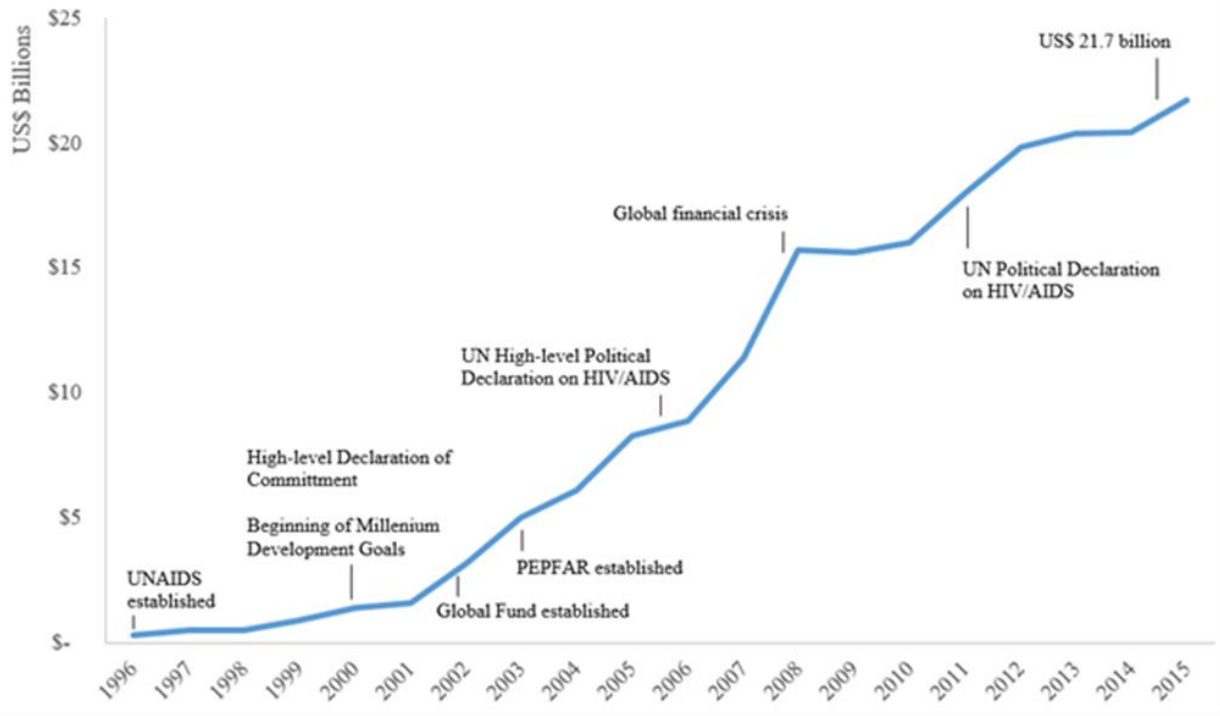

*Financing the Response – Today*

From 2008 onwards shifts occurred in the global response. HIV and AIDS no longer held the status as **THE** premier global threat. In part, this was due to the success of expansion of treatment. Infected people were living longer, more productive lives as a result of cheaper ART. HIV and AIDS policy has become normalized, shifting away from an emergency state, to a mode characterized by increased accountability for results, and an emphasis on cost-effectiveness.

In 2011 UNAIDS proposed an investment framework to reduce new infections and deaths in low and middle-income countries by 2015. This faltered, was revisited, and resulted in the 2015 document, "UNAIDS 2016-2021 Strategy: On the Fast-Track to end AIDS". By 2020, 90 percent of all people living with HIV should know their HIV status; 90 percent of all people with diagnosed HIV infection receive sustained ART; and 90 percent of all people receiving ART have viral suppression. Prevention targets according to this document are for fewer than 500,000 new infections by 2020, and fewer than 200,000 by 2030.

By the end of 2015 UNAIDS assessed that US$19 billion had been invested in low- and middle-income countries (LMICs). UNAIDS estimates US$26.2 billion will be required for the HIV and AIDS response by 2020. It recommends: "low-income countries mobilize at least on average 12 percent of country resource needs, lower-middle-income countries mobilize 45 percent and upper-middle-income countries mobilize 95 percent."[xvi] This marks a clear shift away from HIV and AIDS funding primarily coming from international donors, however this may prove difficult for some countries. The Global Fund figures differ slightly. They suggest that the goals should be 50 percent for LMICs (a slightly higher figure) but only 75 percent for upper middle-income countries (a significantly lower figure).[xvii] Figure 3 shows the resources available for HIV and AIDS in LMICs up to 2015.

**Figure 3 – Total Resources for HIV and AIDS**




Despite a significant amount of money, allocated by a range of donors, there is still a major need for increased and continued financing. This was confirmed in a 2016 modelling paper in by Stover et al. in *PlosOne*.[xviii] The question of where the money should come from is of crucial importance, and domestic resource mobilisation is seen as one potential answer.

Sustainable Development Goal (SDG) 3 is to: Ensure healthy lives and promote well-being for all at all ages. The HIV and AIDS specific target is to end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases by 2030. The UN has set a target of less than 500,000 new HIV infections annually, less than 500,000 AIDS related deaths annually and the elimination of HIV related discrimination by 2020.

In a paper published in 2016, Atun et al. give first-line ARV cost at US$132 per person per year (2012 USD), and second-line ARV cost at $366 (2013 USD) in Sub-Saharan Africa. There is only one ARV manufacturer in the highly-impacted countries, Aspen Pharmacare in South Africa, and it only supplies 20 percent of South Africa's drugs. Meeting the UN goals will require substantial funding for the purchase of drugs and other off shore commodities.

## The Role of the Department for International Development (DFID)[5]

DFID is the primary government department responsible for foreign aid. Their work is targeted towards building a safer, healthier, more prosperous world. DFID looks to tackle global challenges such as: poverty and disease, mass migration, insecurity, and conflict. In addition to working directly in countries, DFID gives UK Aid through multi-country global programmes and core contributions to multilaterals.

DFID's objectives, as highlighted by their, "Single Departmental Plan: 2015 to 2020," released in September 2016, [xix] are:

1. Strengthening global peace, security and governance
2. Strengthening resilience and response to crisis
3. Promoting global prosperity
4. Tackling extreme poverty and helping the world's most vulnerable

In addition, there is an overarching goal of efficiency and delivering value for money, a central aspect of all policies and objective.

DFID's primary responsibilities are:

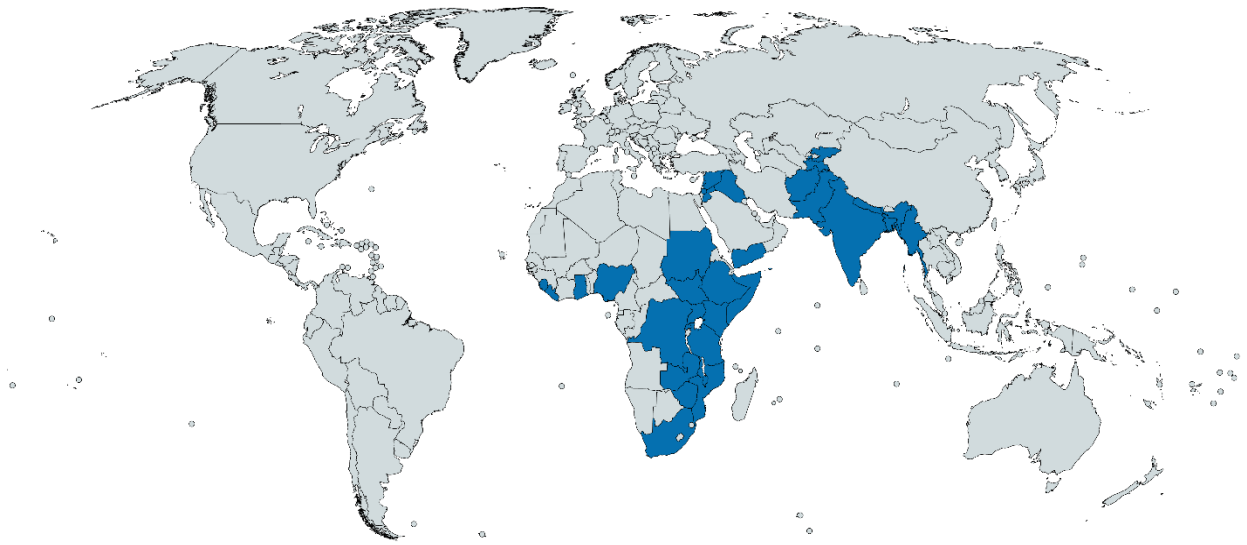
- honouring the UK's international commitments and taking action to achieve the United Nations' Sustainable Development Goals (SDGs)
- making British aid more effective by improving transparency, openness and value for money
- targeting international development policy on economic growth and wealth creation
- improving the coherence and performance of international development policy in fragile and conflict-affected countries
- improving the lives of girls and women
- preventing violence against girls and women in the developing world
- prevent climate change and encourage low-carbon growth in developing countries

Related to this are 23 policy areas of focus, three of which have particular significance for the work presented in this report: health in developing countries, overseas aid effectiveness, and women and girls in developing countries.

The HIV and AIDS epidemic is predominantly seen in Southern and Eastern Africa, two areas of the world where DFID has a particular emphasis. Figure 4 shows where DFID works globally.

[5] The two Acts of Parliament putting development higher on the UK national agenda were the *International Development Act 2002* which clarified the purpose of aid spending as poverty reduction while the *International Development (Reporting and Transparency) Act 2006* defined DFID's annual reporting to Parliament.

**Figure 4 – DFID Priority Countries**[xx]



*DFID and HIV and AIDS*

HIV and AIDS disproportionally affect women and children; it is the biggest killer of women of reproductive age and 3.2 million children are living with HIV. AIDS is the leading cause of death for adolescents in Africa and the second biggest killer of adolescents globally; two thirds of new infections in this age group are among women and girls. Sixty five percent of people living with HIV are in DFID priority countries.

Since 2013, no DFID strategy, plan or framework document has clearly referred to HIV. Neither the DFID strategic vision on women and girls nor the DFID Youth strategy mentioned HIV.[xxi,xxii] UKs current leadership on the HIV and AIDS front can be best exemplified by their role as Vice-Chair of the UNAIDS Board in 2017. However, like most governments in the developed world, particularly other OECD partners, the overall size of the civil service has been reduced across the board with a result that the management is increasingly stretched.

At the recent UN High Level Meeting for Ending AIDS in June 2016, there were strong statements from the UK, but no ministerial presence. At the same time, DFID is the second largest donor to GFATM and has committed £1.1 billion to the fifth replenishment.

Concerns have been raised about Britain's ability to commit to international cooperation following Brexit. The value of the pound fell from a peak of £1 = US$1.71 in July 2014 to a low of £1 = US$1.19 on 15th January 2017. Predictions suggest that the pound will likely stabilise at these lower levels. The dollar value of the British contribution to multilateral agencies will therefore be lower. In the case of bilateral contributions, the fall in the value of most recipients' currencies' values will offset this, but each country should be assessed individually (apart from the Common Monetary Area of Lesotho, Namibia, South Africa, and Swaziland).

It is also important to note that in 2015 the amount of IDA from the United Kingdom that DFID will have to spend has dropped from 85 percent to 70 percent, with the remainder being moved to other parts of UK Government, all with a focus of poverty reduction, but through different specific priorities.

## The Role of the International Community

*Development Assistance for Health*

The 2015 Report, "Financing Global Health" found development assistance for health (DAH) had plateaued.[xxiii] With the ongoing migrant crisis, incomplete recovery from the 2008 financial collapse, and a general uncertainty around global cooperation, aid budgets are increasingly constrained by trade-offs among pressing domestic and international priorities. Nevertheless, DAH has remained around US$35 billion annually for the past five years, representing more than 25 percent of official development assistance (ODA). Figure 5 looks at the total DAH by source of money. Unsurprisingly the United States, the United Kingdom, and the Bill and Melinda Gates Foundation (BMGF) are the largest contributors to global DAH.

**Figure 5 – Total DAH by Source[xxiv]**

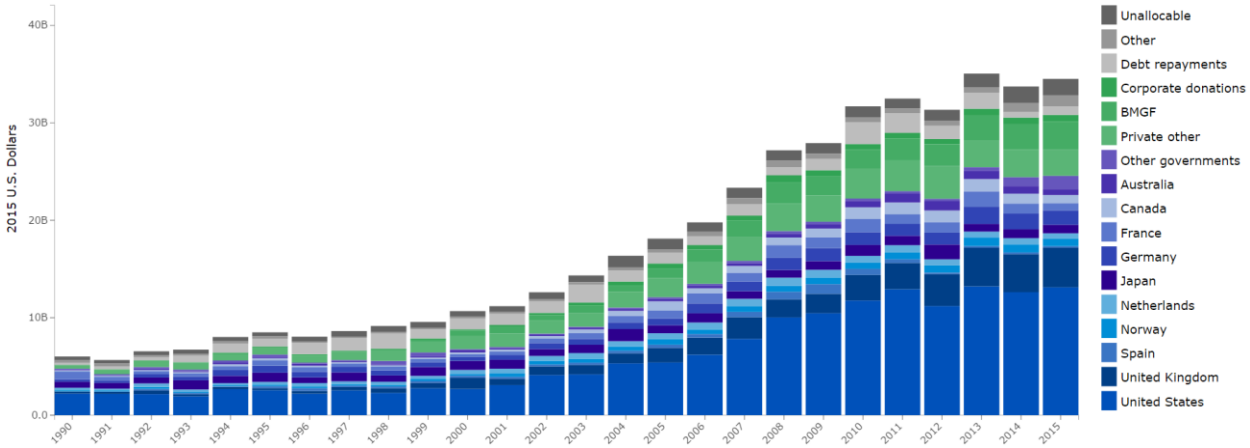



Figure 6 looks at total DAH for each individual health area of focus. Despite progress combatting HIV and AIDS, the epidemic is still the largest recipient of DAH. This status is expected to continue in the absence of a cure, and as more people are put on treatment and live longer lives.

**Figure 6 – Total DAH by Health Area of Focus[xxv]**

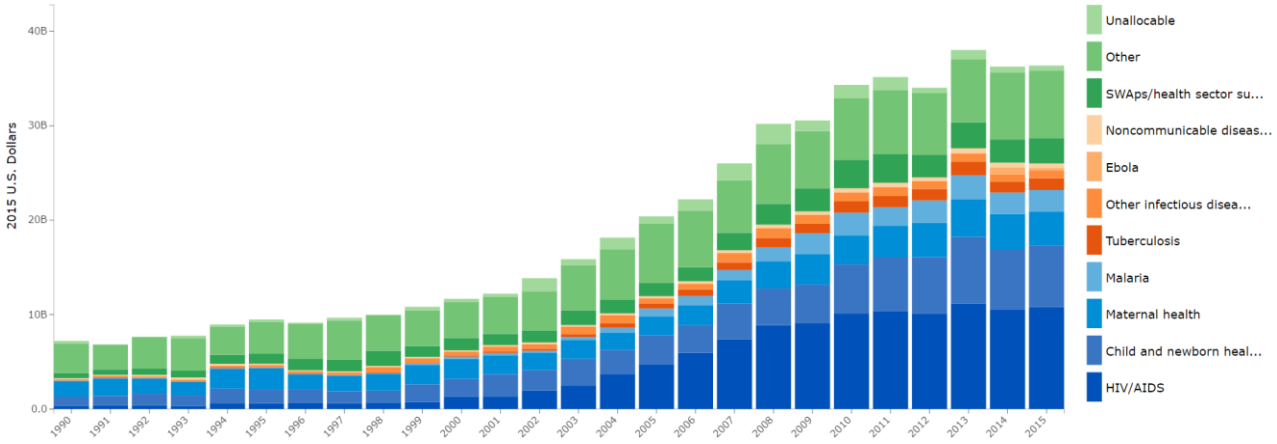
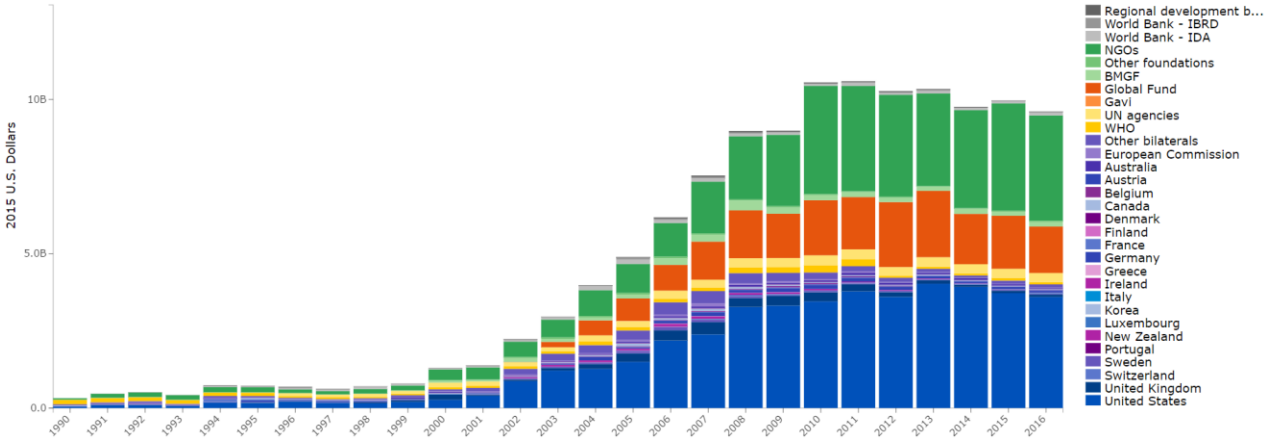


Figure 7 looks at total DAH for HIV by source. The largest percent of money for HIV and AIDS comes from the United States. The Global Fund and NGOs make up the next largest donors, followed by a number of countries including: the United Kingdom, Sweden, France, Germany, and Canada.

**Figure 7 – Total DAH for HIV and AIDS by Source**[xxvi]




What is not evident from these graphs is how important the US$ is for DAH. The United States obviously uses dollars, but so too does the Bill and Melinda Gates Foundation, the Global Fund, US based foundations and NGOs, GAVI, and the United Nations. What this means is that the exchange rate of the US$ is crucial. The World Bank and the International Monetary Fund (IMF) are the exceptions as they use Special Drawing Rights (SDR). An SDR is an international reserve asset first created by the IMF in 1969. In October 2016, the SDR basket consists of the US dollar, the Euro, the Chinese Renminbi, the Japanese Yen and the British Pound Sterling.

There are benefits to a strong US dollar, in that organizations and donors using this currency in DAH can get more out of their donations; however, due to the growing emphasis on increasing domestic financing for HIV and AIDS the strengthening of the US$, and relative weakening of other currencies, might be seen as a mixed blessing the era of declining or stagnating development assistance for health. It is obviously crucial to understand the composition of the health budget, including international and domestic spending for each country (this is sketched out in Figure 1).

Additionally, the rankings of countries in terms of income status may be affected if their currencies decline suddenly. This will be discussed later in the paper, but it may mean that a country will gain or lose access to lower interest rates and easier access to donor money, as well as impacting their view of their own development.

*Currency and Development Assistance*

HIV and AIDS needs, particularly sustained investment in key populations, continue to grow. The question of where will the resources come from is a difficult one and is exacerbated by financial uncertainty and currency fluctuations. Exchange rate fluctuations must be considered when money crosses borders or commodities are bought on the international market.

This needs to be seen against the background where some donors are reluctant to increase contributions to DAH (and ODA more generally). There is an increased emphasis on recipient countries

taking on a larger obligation in financing their HIV and AIDS response; however, the expectation that domestic funding will be able to take a greater role in responding to the epidemic may be premature. It is based on assumptions about sustained economic growth and a valuation of domestic currency, which is liable to fluctuate significantly. This is particularly worrisome for countries with a high HIV burden, low GDP per capita, and low growth. While some countries may indeed be able to increase their domestic contribution to HIV and AIDS, we believe it is naive to use this as an excuse for stagnating, or even worse, decreasing international contributions.

In addition to economic limitations which prevent countries from fully funding their HIV and AIDS response domestically, there is a strong moral argument to be made for the continuation of international funding. This was raised most prominently by Paul Collier, Olivier Sterck, and Richard Manning in their paper, "The Moral and Fiscal Implications of Anti-Retroviral Therapies for HIV in Africa." The authors argue that donor countries have a moral and fiscal imperative to fund international HIV and AIDS programs. They write that, "the distinctive features of HIV make the moral duty to rescue particularly pertinent: the decision whether or not to provide ART is tantamount to deciding whether a clearly specified group of identifiable people should live or die."[xxvii]

The currency issue is particularly important to address. International contributions to HIV and AIDS are generally expressed in US dollars. If the dollar appreciates (as it has of late), donor pledges that are in their own currencies, may flat-line or even decrease in dollar terms.

The 2016 AIDSpan article, "The Global Fund Reports Pledges of US$12.9 Billion at the End of the Replenishment Conference" looks at this.[xxviii] At the time of the 2013 replenishment conference for GFATM, the Canadian dollar was at par with the US dollar. In 2016 CAD$1 was worth US$0.76. The government pledged to increase its commitment to GFATM by 24%, but this figure is almost completely negated by the decline in the Canadian dollar. Japan repeated its 2013 commitment with a US$800 million pledge in 2016. With the Japanese Yen depreciating significantly since 2013, this repeat pledge, in US dollar, constitutes a significant increase in the amount donated by Japan. Both Canadians and Japanese citizens are paying more domestically, but internationally this is worth the same. The value of currencies will always change and this cannot be predicted with any certainty. Our argument is that we should be aware of short-to-medium-term trends and their implications.

## Domestic Financing

Much of the global HIV and AIDS response has depended on international financing. Yet, the combination of flat-lining international funding commitments, optimism surrounding economic growth forecasts, and the prospects of increased revenues from natural resources[xxix] in high burden, recipient countries, has spurred global and regional declarations calling for African governments to fund more of their own responses.[xxx, xxxi, xxxii]

In 2012, the 19th Summit of the African Union adopted the *Roadmap on Shared Responsibility and Global Solidarity for AIDS, TB and Malaria Response in Africa*. The roadmap calls on African governments and development partners to raise funding for the three diseases together, investing their 'fair share' based on ability and prior commitments. Preliminary studies have indicated that the AIDS response can be implemented in a more efficient and effective manner to maximise the return on investments.

A number of 2016 World Bank reports suggest that sub-Saharan Africa will continue to be one of the world's fastest growing regions in the world. This will provide the opportunity to shift domestic resources to the AIDS response; however, there are still many challenges. Many recipient countries remain dependent on external resources. Currency depreciation in the region has meant that domestic purchases for external resources will require significantly more money than once was the case. Although this impact may be offset by the appreciated US dollar, stagnating (or even worse declining) IDA will mean this is not a long-term solution to be relied upon. The significant need for AIDS investments will require both domestic and international funding to not only be sustained, but also steadily increased to meet the 2020 and 2030 targets.

Efforts to increase the amount of domestic money for HIV and AIDS (as well as other health challenges) have been met with optimism from a number of prominent African leaders, the UNAIDS Executive Director, and stakeholders in a high-level side event, and the New Paradigm in Health Financing, at the Ninth African Development Forum, held in Morocco from 12–16 October 2014. Both stakeholders and leaders agreed on the urgent need to adopt innovative financing mechanisms for health. This will require increased domestic resources and strategic spending of these funds. Participants called for increased domestic health spending that can be sustained over time to address health priorities in Africa. In their view, the development of innovative financing solutions and smart investments for better health returns will put Africa in a position to end the AIDS epidemic by 2030.[6]

With the growing emphasis on increasing domestic financing, falling currencies cause the purchasing power of domestic resources to drop especially for internationally sourced commodities and services. This is particularly significant when it comes to the purchase of ART drugs and medications as they are primarily sources in US dollars. This means ever increasing funding will be needed in local currency. This can be illustrated with the case of the rand. At the end of 2010, one rand bought US$0.14. In 2013, this was down to US$0.09. At its lowest level, in January 2016 the rand bought less than US$0.06. As of March 2017, one rand bought US$0.077, but political changes in South Africa (the firing of the Minister of Finance) meant the currency lost value again in April.

Although exchange rates in the countries we are examining are determined by a combination of the market, central bank interventions and government policy, the Common Monetary Area (CMA) of South Africa, Lesotho, Namibia and Swaziland is unique. A change in the value of the Rand leads to the same change in the value of the Lesotho Maloti, Namibian Dollar and Swazi Lilangeni. A case study of Swaziland is attached as Appendix

There is one notable exception to the issue of currency fluctuations in Southern Africa: Zimbabwe. It has an appalling economic and political situation. Following a period of hyperinflation, (in August 2008 it was estimated by the Central Statistical Office to be 11,200,000 percent), Zimbabweans were allowed to use other stable currencies alongside the Zimbabwe dollar. The dollar was suspended indefinitely a few months later. This helped slow the economic collapse, but it was difficult for people to get the actual dollars. Despite a relatively quick recovery and considerable economic growth post-2008, in 2016, the

[6] In our view, the prospects of significant funding being raised from innovative financing is slim. A report warning of this was prepared by Whiteside and Booth, 'INNOVATIVE AND DOMESTIC FINANCING FOR HEALTH Expanding the fiscal space for health in Africa" was published by the African Union in June 2016.

government announced it was introducing 'bond notes' pegged to the US dollar causing widespread panic. Zimbabwe is, effectively, in limbo waiting for political change. A review of news stories concerning the currency in May of 2017 indicates this limbo will continue. One report suggested that there was discussion about adopting the rand, while in another the permanent secretary of the Ministry of Education is quoted as saying, "school fees can be paid in livestock."[xxxiii]

## Exchange Rates and Currency Fluctuations

*Exchange Rates*

There are two main systems used to determine a currency's exchange rate: floating and pegged. The market determines a floating exchange rate. In this case, a currency is worth whatever buyers are willing to pay for it. This is determined by supply and demand, which is in turn driven by foreign investment, import/export ratios, inflation, and a host of other economic and political factors. Changes to national economic policy can affect floating exchange rates, directly or indirectly. Tax cuts, fluctuations in the national interest rate, and import tariffs can all change the value of a currency.

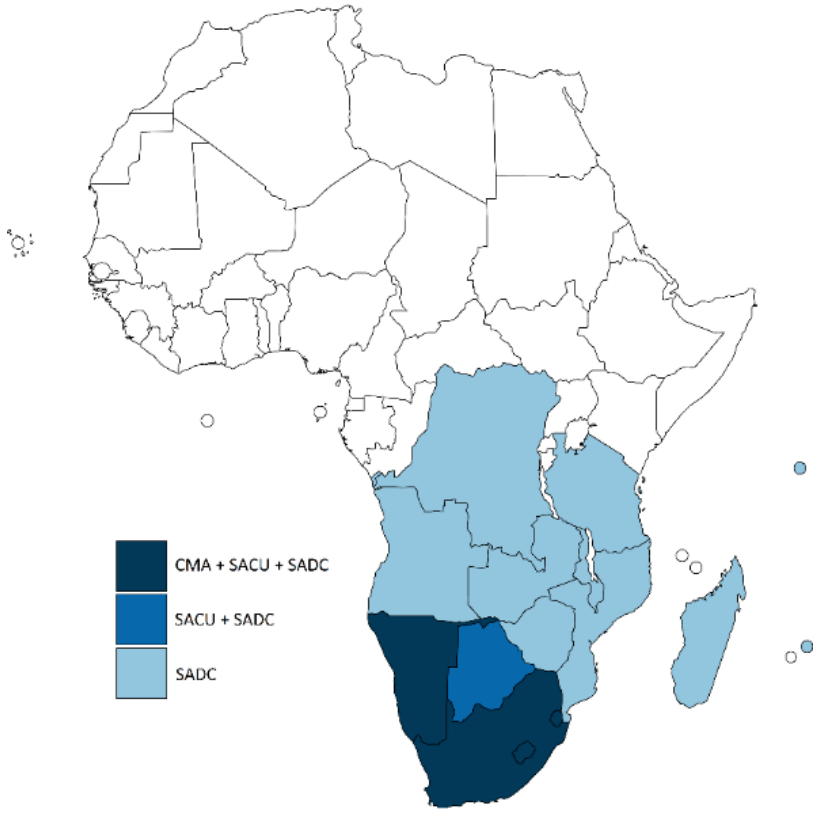
A pegged, or fixed system, is one in which the exchange rate is set and maintained by the government. The rate will be pegged to some other currency, usually the US$ or a basket of currencies. The rate will not fluctuate from day to day. A government has to work to keep their pegged rate stable. Their national bank must hold sufficient reserves of foreign currency to mitigate changes in supply and demand. If a sudden demand for a currency drives up the exchange rate, the national bank can release enough currency into the market to meet the demand. They can also buy currency if demand is low by artificially changing exchange rates. A pegged rate can avoid market panics and inflationary disasters. Governments periodically review their peg, and make adjustments to keep it in line with market value.

Demand for foreign currency arises from importing merchandise goods and payment for services, or from redemption of capital obligations. Conversely, the supply of foreign currency emanates from the exporting of goods and services or from an inflow of foreign capital.

*Economic Groupings*

The countries of Southern and Eastern Africa are integrated through economic and political groupings. Figure 8 shows the three most important ones: the Southern African Customs Union (SACU), established over 100 years ago; the Rand Monetary Area, which was set up in 1974 and replaced by the Common Monetary Area (CMA) in 1986; and the Southern African Development Community (SADC), originally created as the Southern African Development Coordination Conference in 1980 to counter the malign South African influence on the region during the apartheid era.

**Figure 8 – Economic Groups in Southern and Eastern Africa**




These regional groupings allow member countries to diversify and makes trade simpler; however, at the same time, the high levels of integration often mean that if one of the larger countries does poorly, it will have an even greater impact on the well-being and economic growth of the other countries. The dominant country is, unsurprisingly, South Africa. The importance of economic groupings for HIV and AIDS, and how they might be leveraged has not been fully examined. This needs more thought and research but is beyond our scope. More details of the major regional economic groupings are given in Appendix 2.

*Hedging*

Currency risk typically affects businesses that import or export their products, services, or supplies and individuals making international investments. These risks can also have a significant impact on how far a country's currency goes when it is donated or spent in another country. This aspect is particularly important in international development settings. When one country gives money to another these donations are subject to currency fluctuations both locally and in the recipient country. These fluctuations can be good, bad, or inconsequential, depending on a variety of factors.

Hedging is a form of insurance used to mitigate the impact of an unforeseen negative event. Corporations, organizations, individual investors, even countries can use hedging techniques to reduce their exposure to various risks. In financial markets hedging against investment risk means strategically using instruments in the market to offset the risk of any adverse price movements. In other words, investors hedge one investment by making another.

Since foreign exchange rates can have a significant impact on the ability to finance the HIV and AIDS response, donors and recipients may be able to use hedging to mitigate the risk associated with unanticipated currency appreciations or depreciations. For example, if the donor country committed to providing $100 million for ARV in Malawi, for a five-year period, but knew its currency was likely to depreciate, it might hedge all or a portion of the funding – effectively paying an insurance premium on the international currency market to protect against this depreciation. As with all insurance it is there in case!

Hedging can be a useful tool for donors who operate in strong, relatively stable currencies, where there is demand on a foreign market for that currency. Unfortunately, in most cases, hedging may only be a viable solution for countries whose currencies have a significant demand and relative stability, essentially eliminating hedging as a long-term solution for most high-burden, recipient countries.

An additional question raised during the interviews for this paper was what happens in the event of there being an excess of funds (because the recipient's currency fell or the donor's increased in value). There was a general consensus that excess money would be reprogrammed, and if there was a shortfall the donor would make this up. Though in general it was noted that it was very rare for all the allocated funding to be used, indeed a 'burn rate' of 80 percent was considered good.

## Regional Economic Outlook

As international financing for HIV and AIDS stagnates, there is an increased emphasis on countries financing their response domestically. The argument here is twofold: first, countries in the developing world have more resources and grow economically, so there is the belief that they should take a greater role in financing their HIV and AIDS response and become less reliant on foreign donors. This allows for autonomy, control, and makes these countries less susceptible to global economic slowdowns and their impact on development assistance.

Secondly, and linked to this, is the issue of ownership. If countries are paying for the AIDS response they should be more committed to making it work, and of course, less tolerant of misuse of funds. A Results for Development (R4D) review of 12 twelve PEPFAR countries noted that there are, 'deeply ingrained perceptions by finance and other senior government officials that donors will take care of the AIDS programme, as indeed donors had done over the past decade'. This, the R4D review argued, gave rise to low domestic allocations, little local involvement, and an abnegation of responsibility. Additionally, donor-determined strategies and priorities might not reflect local needs or conditions, as with the US's abstinence 'earmark' where a proportion of US money had to be spent on promoting abstinence.[xxxiv]

There is also the donor point of view. In a perceptive article in Foreign Affairs Lyman and Wittels write: "The United States' dramatic increase in humanitarian and life-saving AIDS assistance creates an acute paradox: it diminishes Washington's leverage over the governments that get the aid. Aid that is so closely linked to individuals' survival cannot reasonably be curtailed, even if serious differences arise between the donors and the recipients."[xxxv]

In the wake of the financial crisis of 2008, it was believed foreign development assistance would grow only modesty. In fact, as the post 2009 data became available, it was apparent that money for AIDS (see Figure 3) plateaued then started to rise again. In 2016 we believe, and the early indications are, that the peak has been reached. In particular, the election results in the US do not bode well for DAH. One

concern is people and agencies involved in development will respond prematurely by becoming conservative in planning and spending.

If the AIDS response is to be sustained, and the UNAIDS 90-90-90 targets are to be met, countries must increase domestic spending. Nevertheless, economic development is not equally distributed; different countries have differing abilities to pay and the scale of the epidemic varies. For example, Resch, Ryckman and Hecht found that while Botswana, Namibia, and South Africa should be able to fully fund their own AIDS programmes from domestic resources by 2018, others such as Ethiopia or Mozambique can only cover approximately 20 percent.[xxxvi]

The next section will look at the sub-Saharan African countries with hyper epidemics and examine their economic outlooks. We examine whether these countries will be able to grow enough to sustain their own domestic HIV response.

From 1990 to 2015, gross domestic product (GDP) rose by an average annual rate of 3.86 percent in sub-Saharan Africa, compared to 2.79 percent for the world. The differences are even more pronounced when looking at different time periods. From 1990 to 1999, GDP in sub-Saharan Africa rose by an average of 1.96 percent, compared to 2.66 percent globally. From 2000 to 2015 sub-Saharan African GDP rose by an average of 5.04 percent compared to 2.87 percent globally.[xxxvii] By many measures there has been substantial progress. Since 1990, the percent of Africans living on $1.25 per day has dropped from 56 percent to 48 percent. The poverty rate is on track to fall to 24 percent by 2030.[xxxviii]

World Bank data on global and sub-Saharan Africa growth since 2008 is shown on Table 3. At first sight growth in Africa is higher than the world average. The prospects for greater domestic funding for HIV and AIDS should be there. There also needs to be a note on demographics. Africa's population doubled to over 1 billion people between 1990 and 2015.[xxxix] There have been real gains in wealth and reductions in poverty, but population growth means increases in per capita income are lower, and some populations are getting poorer. Africa will account for more than half of the world's population growth between 2015 and 2050. AIDS is not impacting population growth but it does affect spending.

**Table 3 – World and Sub-Saharan GDP Growth**

| Area | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 (est) | 2017 (est) | 2018 (est) |
|---|---|---|---|---|---|---|---|---|---|---|
| **World** | 1.7 | 4.4 | 3.1 | 2.5 | 2.4. | 2.6 | 2.5 | 2.4 | 2.8 | 3.0 |
| **Sub-Saharan Africa** | 2.8 | 5.5 | 4.3 | 3.6 | 4.7 | 4.6 | 3.0 | 2.5 | 3.9 | 4.4 |

## Country Economic Outlooks

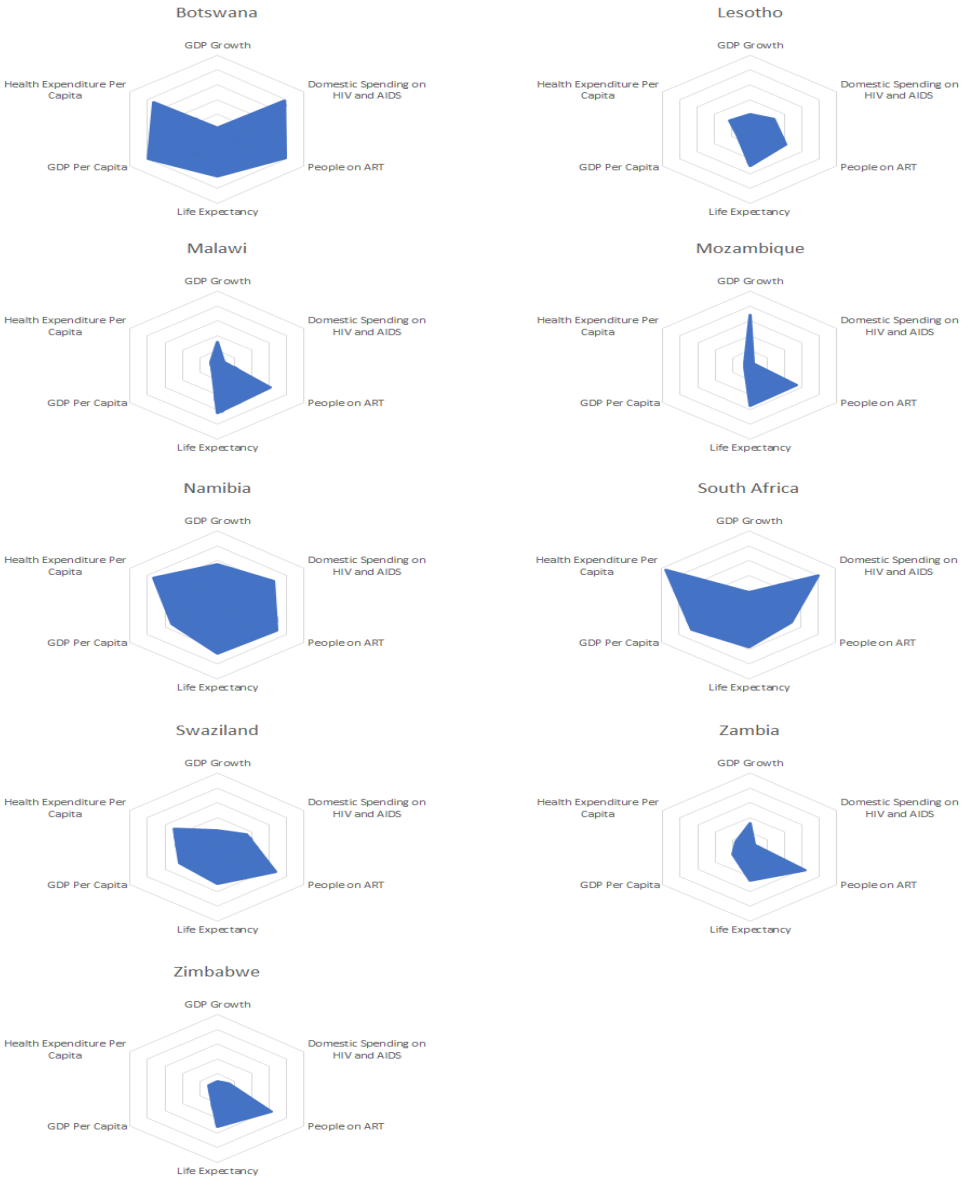
In this section, we look at the possibilities of countries increasing domestic funding for HIV and the trends in currency value. We note that ultimately this requires a political response, the government of impacted countries needs to decide that HIV and AIDS is a priority and that they will take over from international donors if they reduce their donations. The Ministry of Finance has to allocate the funding that the Ministry of Health and other service delivery ministries must ask for. The money then has to be allocated and spent.

While it is true that currency trends are not likely to stay the same, we can already see the rand beginning to rebound slightly in fact, this does not make the currency issue any less important. Governments and donors alike need to be aware of the impact appreciations or deprecations can have

on the effectiveness and impact of AIDS budgets. It is also important to note that this work came as a result of a significant depreciation of a number of recipient and donor currencies and the continued strengthening of the US dollar. While this has meant that domestic donor currencies will have a decreased impact on the HIV and AIDS response, it is likely that this trend could completely reverse in the future. In that case we may have to worry about the impact of a weakened US dollar and the ability for donors to have the same level of impact that they currently do. The overall point being that fluctuations matter much more than has been appreciated.

The section begins with a diagram showing how the various priority countries fare in a number of different indicators: GDP growth, domestic spending on HIV and AIDS, number of people on ART, life expectancy, GDP per capita, and health expenditure per capita. Figure 9 shows that the bigger the web the better the country is performing overall in these indicators.

**Figure 9 – Country Performance Webs**

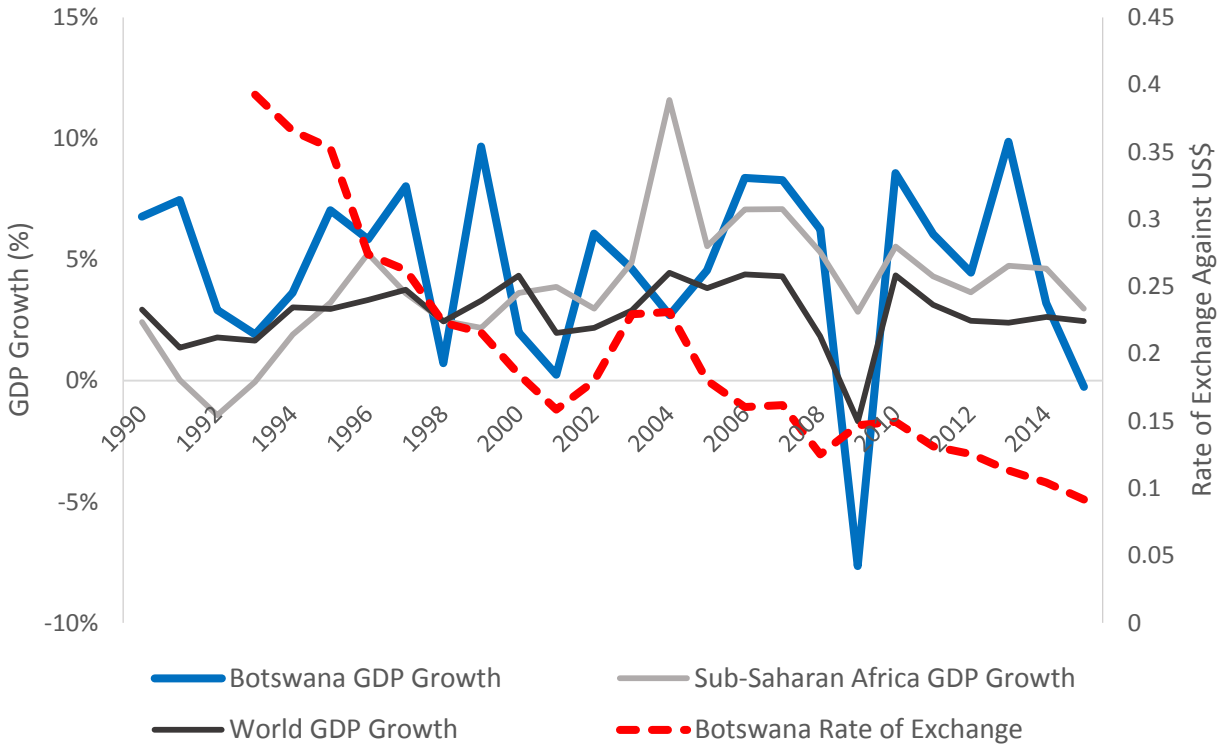


*Economic Outlook: Botswana*

Botswana had per capita GDP of about $70, at independence in 1966. In the years that followed, with the discovery of diamonds and other minerals, it developed one of the world's fastest growing economies and moved into the ranks of upper-middle income countries. Real GDP showed robust growth of an average five percent per annum over the past decade; however, it is volatile as Figure 10 shows. The GDP per capita is the highest of the countries studied and stands at $6,360. The adult HIV prevalence is 22.2 percent, one of the highest in the region. Botswana however provides 76.7 percent of resources domestically and 78 percent of those eligible are on ART.

The economic volatility is due to the vulnerability of the main exports, diamonds and minerals to global demand. In addition, the country was severely hit by the Southern African drought, which has had implications for the cattle industry. None-the-less it has an extremely fiscally prudent government which has invested wisely. Botswana can largely afford the treatment program, but have been affected by a declining currency. They are not a member of the CMA. Their exchange rate is set against a basket of currencies and the value of the pula against the dollar declined by 42 percent from January 2012 to November 2016.

**Figure 10 – Botswana GDP Growth and Exchange Rate**[xl]

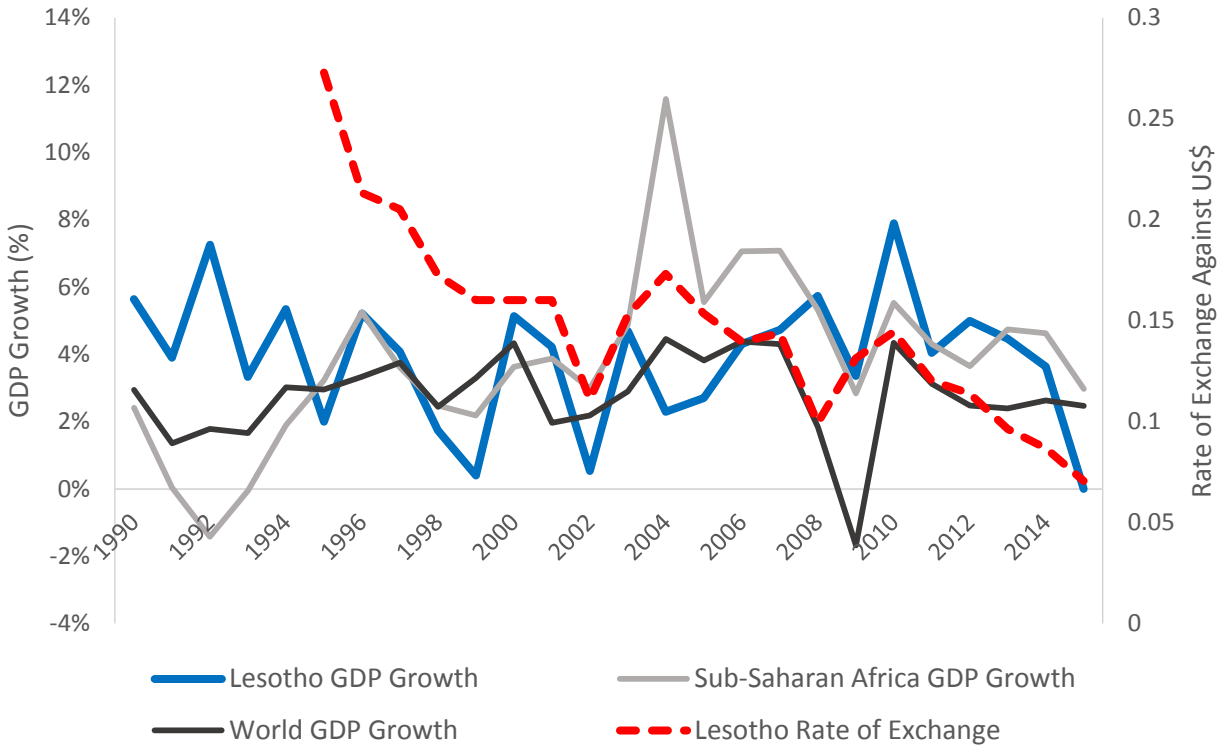



*Economic Outlook: Lesotho*

Lesotho is one of the poorest countries in Southern Africa with a GDP per capita of $1034.2 (2014 figures). It provides an interesting case study of changing status as it has moved from middle income to lower middle-income due to its exceptionally poor economic performance and the fall in the value of its currency (it is a member of the CMA). Economic growth in Lesotho slowed to an estimated rate of 3.4

percent in 2015, down from 3.6 percent in 2014. Growth is projected to remain subdued at 2.6 percent in 2016 and 2.9 percent in 2017. The country is dependent on South Africa and SACU revenues. Recent currency depreciation increased the public debt to GDP ratio to 60 percent in 2015/16, and the projected sharp decline in SACU revenues call for a substantial and sustained fiscal adjustment to protect debt sustainability. Lesotho will not be able to afford the AIDS response with domestic resources alone and will continue to need international assistance.

**Figure 11 – Lesotho GDP Growth and Exchange Rate**[xli]

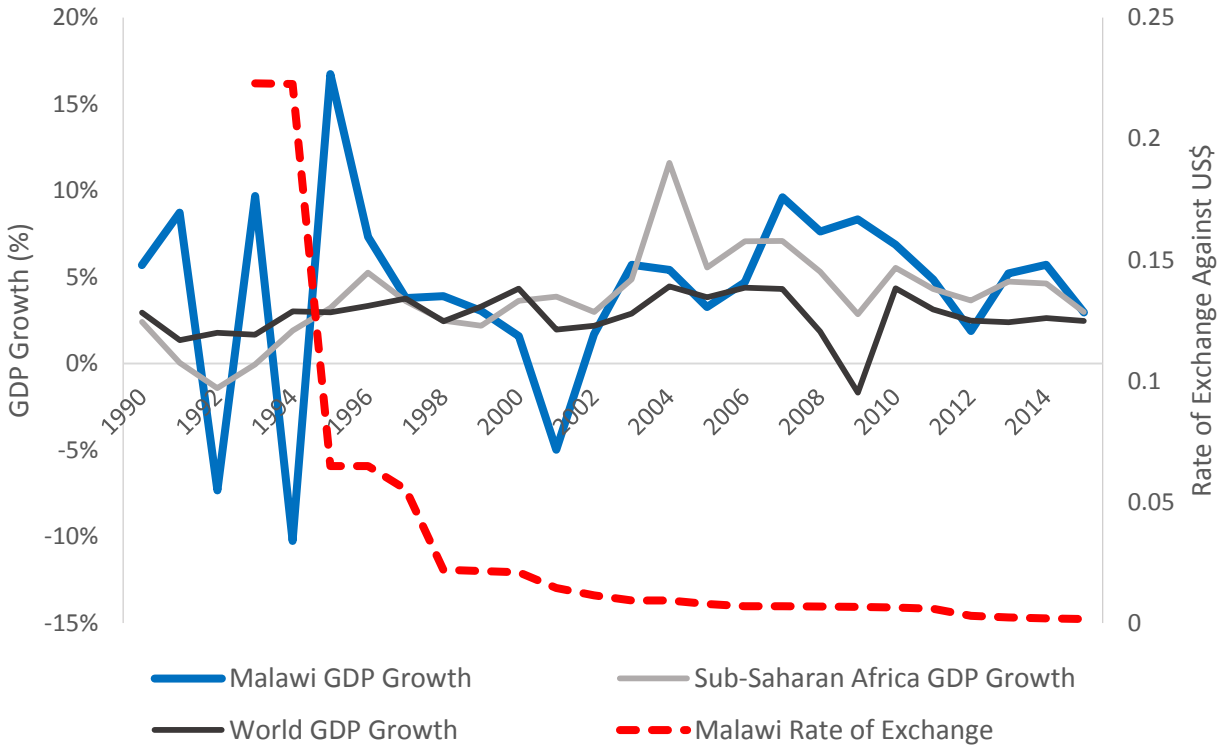



*Economic Outlook: Malawi*

With the support of the International Monetary Fund (IMF) and the World Bank, Malawi was able to make important economic and structural reforms and sustain its economic growth rates for over a decade. It is, however, the poorest of all the countries in Southern Africa. The GDP per capita is a mere $381.4 which means it cannot afford to fund the AIDS response from domestic resources and will continue to need significant international support.

Poverty is still widespread and the economy remains undiversified and vulnerable to external shocks. Real GDP grew by 5.7 percent in 2014, but slowed down to 2.8 percent in 2015 as Malawi suffered from dual challenges of adverse weather conditions and macroeconomic instability. Flooding in southern districts followed by countrywide drought conditions saw a contraction in agricultural production. In 2016, buffeted by weather and policy shocks, Malawi's real GDP growth was estimated at just under three percent. Floods and dry spells reduced maize production by 30 percent, resulting in a 2.3 percent slowdown in agriculture sector growth. The future prospects for the economy and public spending, including on health, are not good.

**Figure 12 – Malawi GDP Growth and Exchange Rate**[xlii]

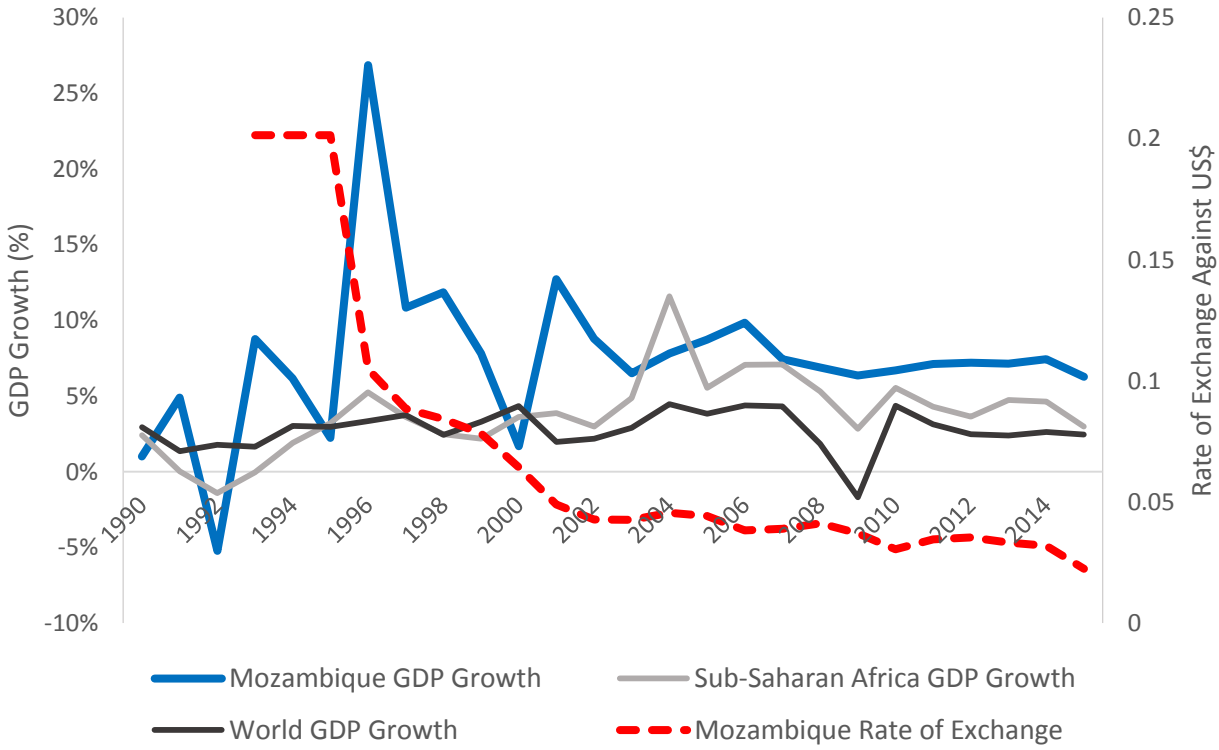



*Economic Outlook: Mozambique*

Mozambique faces challenges as a result of global economic weakness and growing domestic fiscal risks. Low commodity prices and the regional drought exacerbated this. The country had a decade of annual GDP growth above 7.0 percent. Growth declined to 6.3 percent in 2015 as a result of low exports, decreased public expenditure, and diminished foreign direct investment. The budget deficit was successfully reduced from 6.6 percent in 2014 to 5.4 percent in 2015. The country is expected to show increased GDP growth in 2016 and 2017. This hinges on gas and coal projects and attracting new and additional foreign investment.

Devaluation of the Mozambique metical is expected to spike inflation, negatively affecting living conditions for the wider population. Devaluation was slowed down by a US$282.9 million credit facility agreement with the IMF in December 2015. The value of the currency fell sharply in 1996 and continued to decline until 2002. Since then the decline in value has continued, but at a much slower rate than before. By comparison to the other countries in the region Mozambique has a relatively stable currency. Mozambique can afford to increase the domestic contribution to response to HIV and AIDS. If growth continues this share should also continue to increase. We note that Mozambique is starting from a very low base so the increase should be monitored both in relative and absolute terms.

**Figure 13 – Mozambique GDP Growth and Exchange Rate**[xliii]



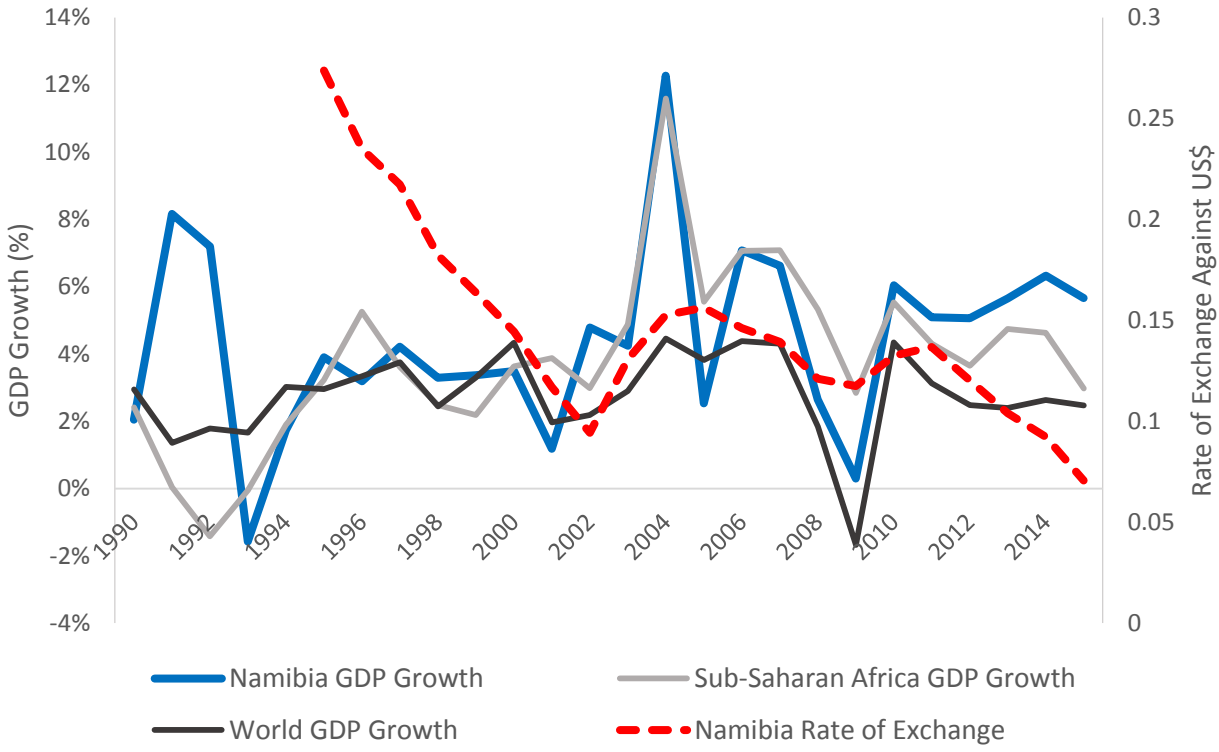

*Economic Outlook: Namibia*

Namibia enjoyed a sustained period of growth. From 2010 the economy grew at an average rate of 5.6 percent per year. However, GDP growth fell from 6.4 percent in 2014 to 4.4 percent in 2015 as a result of weak commodity prices and the extended drought. The growth is driven by investment in extractive resources, high prices for Namibian exports, burgeoning private credit, and a deficit financed stimulus plan. Political stability and sound economic management helped anchor sustained economic growth.

Over the longer-term, Namibia must continue to diversify its economy and move away from reliance on resource and environmentally-sensitive sources of income. All major income sectors—mining, tourism, livestock and meat production, and fisheries—are vulnerable to external economic and ecological shocks. Demand is cyclical, seasonal, or unpredictable, with downstream effects on employment, income, and government revenue. All face considerable risk as a result of climate change. Falling SACU revenues are a key risk factor. Namibia continues to benefit from its close ties to South Africa, which allows the country to attract greater investment than most sub-Saharan Africa countries.

In terms of funding the response to the epidemic, Namibia has the potential to increase its share. As it is a member of the CMA it faces the same decline in currency, as South Africa and this will continue to present the challenges outlined in this report.

**Figure 14 – Namibia GDP Growth and Exchange Rate**[xliv]



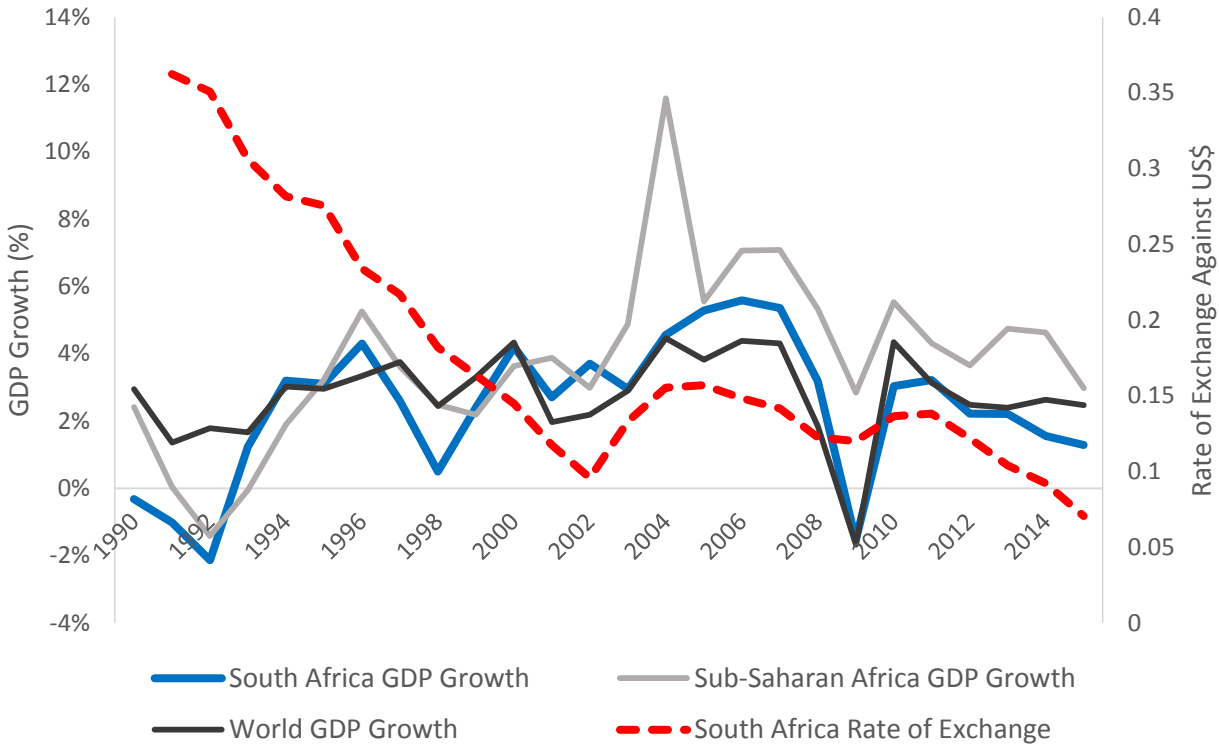

*Economic Outlook: South Africa*

The greatest numbers of people living with HIV in the world are in South Africa. It is also one of the slowest growing economies in the region, with all the challenges this brings. The national growth rate in South Africa fell sharply after the 2008 financial crash, indeed in the 2014/15 financial year, it moved into negative territory. As a result of this per capita incomes have fallen. Economic performance was challenging in 2015, with GDP growth of only 1.3 percent. This sluggish growth was primarily due to depressed commodity and low global commodity prices, low investment, erratic capital flows, low consumer and business confidence and political mismanagement. Real GDP growth is forecast to continue its downward trend in 2016, falling to just 0.7 percent.

The rand depreciated by more than 30 percent between 2014 and 2015, although monetary policy is seen as good. South Africa narrowly averted being down-graded to 'junk bond' status at the end of 2016 but the rating agencies viewed the outlook as negative. At the end of March 2017, President Jacob Zuma fired the Finance Minister Pravin Gordhan. Within a week two ratings agencies Standard and Poor and Moody's downgrading South Africa's government bonds: one to a sub-investment-grade BB+, a "junk" rating, and the other to just above junk status. This will drive up inflation (across the CMA), cause the value of the rand to fall, and may discourage investment.

The country faces exogenous challenges: the worst drought in two decades continued to devastate agriculture up to the end of 2016[7] . The role of HIV and AIDS on the economy is still not clear. There have been a number of studies on this and its economic and political impact may be underestimated. [xlv] The cost to the government of treatment going into the future is a real source of concern, especially since the country has not experienced the "AIDS transition' yet.

**Figure 15 – South Africa GDP Growth and Exchange Rate[xlvi]**




South Africa can continue to increase the proportion of domestic funding allocated to HIV and AIDS. It does, however, have both unique advantages and specific challenges. The advantage is that the public health system is well developed, and, although it has problems, can cope with the demand. The specific challenge is that the number of people requiring treatment will continue to rise, as will those who need to be placed on second line therapy. This means that the costs could increase significantly and is a cause of concern for the Treasury. There is some argument for South Africa to continue to receive significant international development assistance as the numbers are so great, the program can be seen as an international best practice, and it is a good location for a range of research projects such as vaccine trials currently underway.

*Economic Outlook: Swaziland*

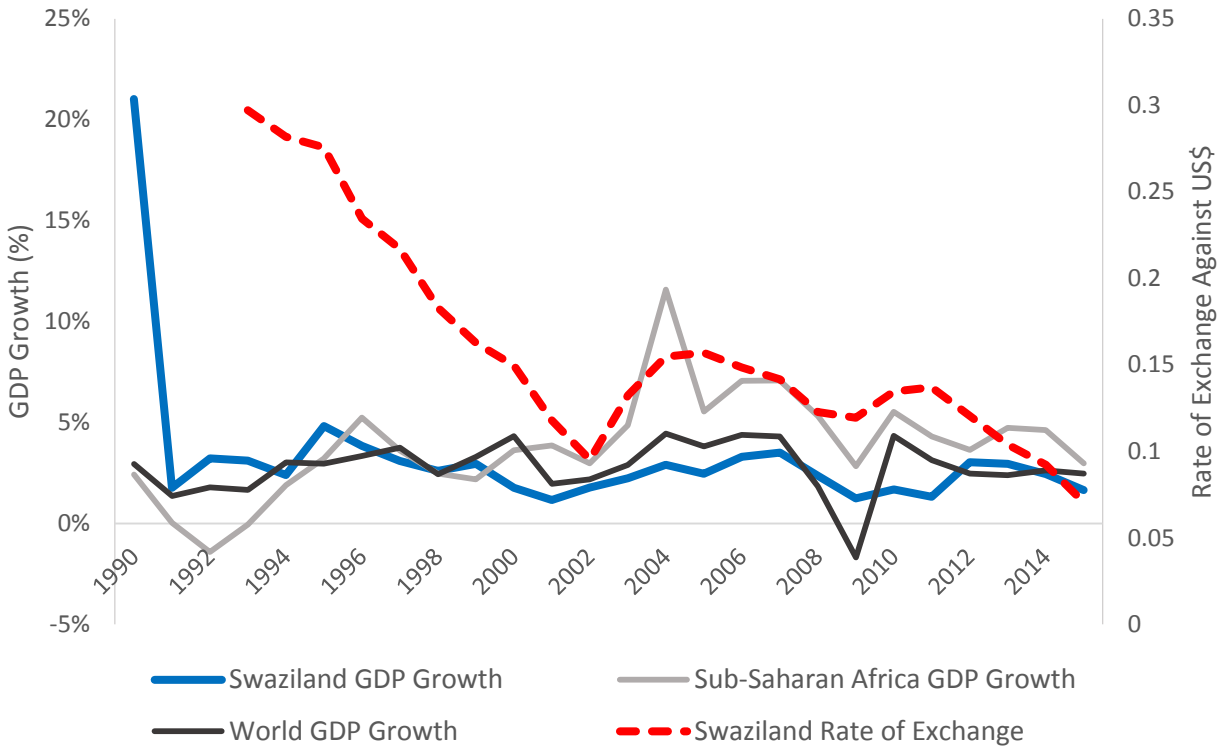
Swaziland's economic growth slowed from 2.5 percent in 2014 to 1.3 percent in 2016, primarily as a result of the severe regional drought, but also due to a weakened mining sector, economic slowdown in

[7] The rainy season of 2016/17 began with good rain (and flooding) in parts of the region. It takes several years for a country to recover from serious drought. In addition, environmental change will worsen in the decades ahead and Southern Africa is projected to be particularly badly affected.

neighbouring South Africa, which accounts for about 85 percent of imports and about 60 percent of exports and a high reliance on volatile revenues from SACU. Decreasing revenues, combined with increased public spending, are generating higher fiscal deficits and a growing public debt. The public debt to GDP ratio could increase from 17.4 percent in 2015 to 24 percent in 2018, significantly increasing risks of financial instability.

Government capital investment programmes have increased, however many are 'vanity' projects, such as the new airport, with little impact on long-term growth. Prospects for 2017 remain poor, below 2 percent per year. Of particular concern is the country's loss of eligibility under the African Growth and Opportunity Act (AGOA) in January 2015 as a result of a failure to show, "demonstrated progress on the protection of internationally recognized worker rights," and having, "failed to make continual progress in protecting freedom of association and the right to organize."[xlvii] Swaziland is a member of the CMA with the challenges this brings. It will continue to need outside support for the AIDS response but more should be demanded of the country regarding responsible budgeting.

**Figure 16 – Swaziland GDP Growth and Exchange Rate[xlviii]**



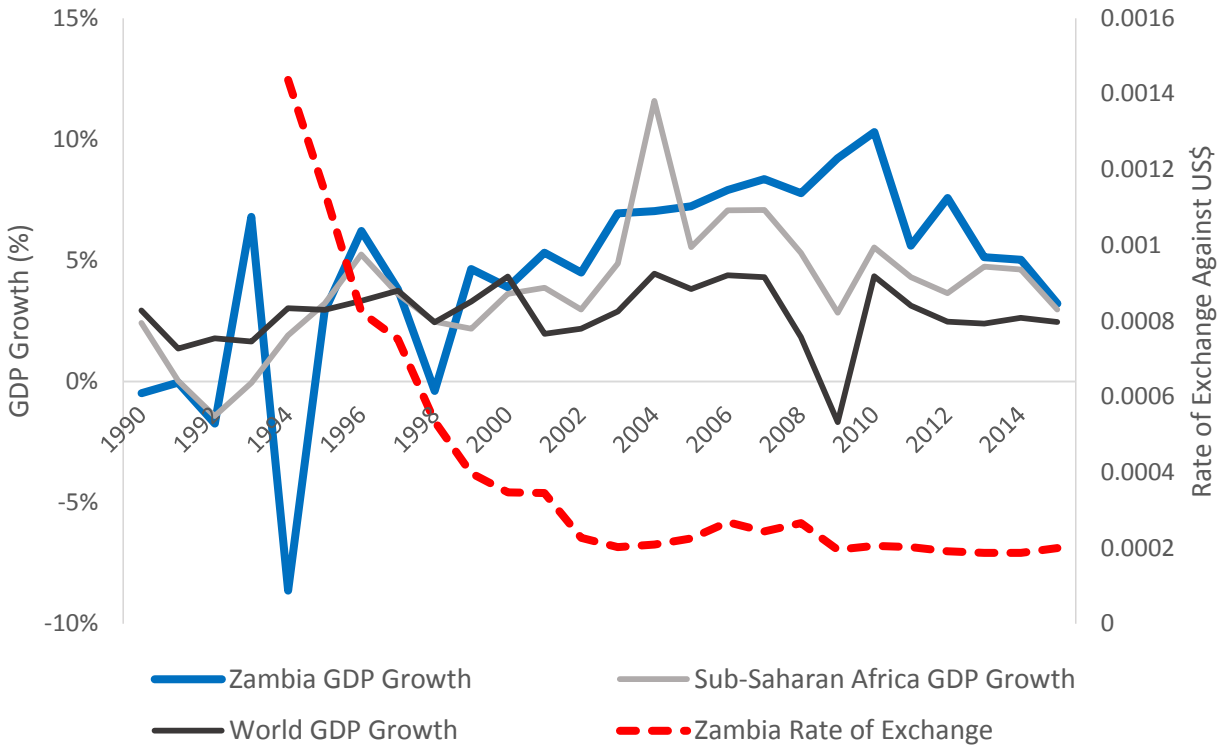

*Economic Outlook: Zambia*

Although Zambia's economy grew at an average annual rate of 7 percent between 2010 and 2014, it was off a low base and the country is grappling with anemic economic growth, spiralling inflation, and a weak currency.[xlix] This was acknowledged in Zambia's most recent Global Fund application, which suggested that since 2015 Zambia has faced a challenging economic climate. Falling copper prices, pressure on the government's operating and investment budget and electricity-supply shortages have all affected the real economy. While the government has increased health spending, in US dollar terms this

increase is less visible; the Zambian Kwacha depreciated by 42% against the US dollar, raising end-of-year inflation in that year to 21%. Slowing demand from China has reduced copper prices to their lowest level in more than seven years. They are expected to remain flat, as world copper supply is enough to meet global demand. Low agricultural output and a growing electricity crisis have exacerbated the situation. Maize output declined by 22 percent due to poor rains.

The waning confidence in the economy resulted in the Zambia kwacha (ZMW) depreciating by 42 percent against the United States dollar (USD), raising end-of-year inflation to 21 percent. The slowdown in the economy led to more than 9 000 job losses in the formal private sector.[I] Zambia will continue to need support for the AIDS response.

**Figure 17 – Zambia GDP Growth and Exchange Rate[Ii]**




*Economic Outlook: Zimbabwe*

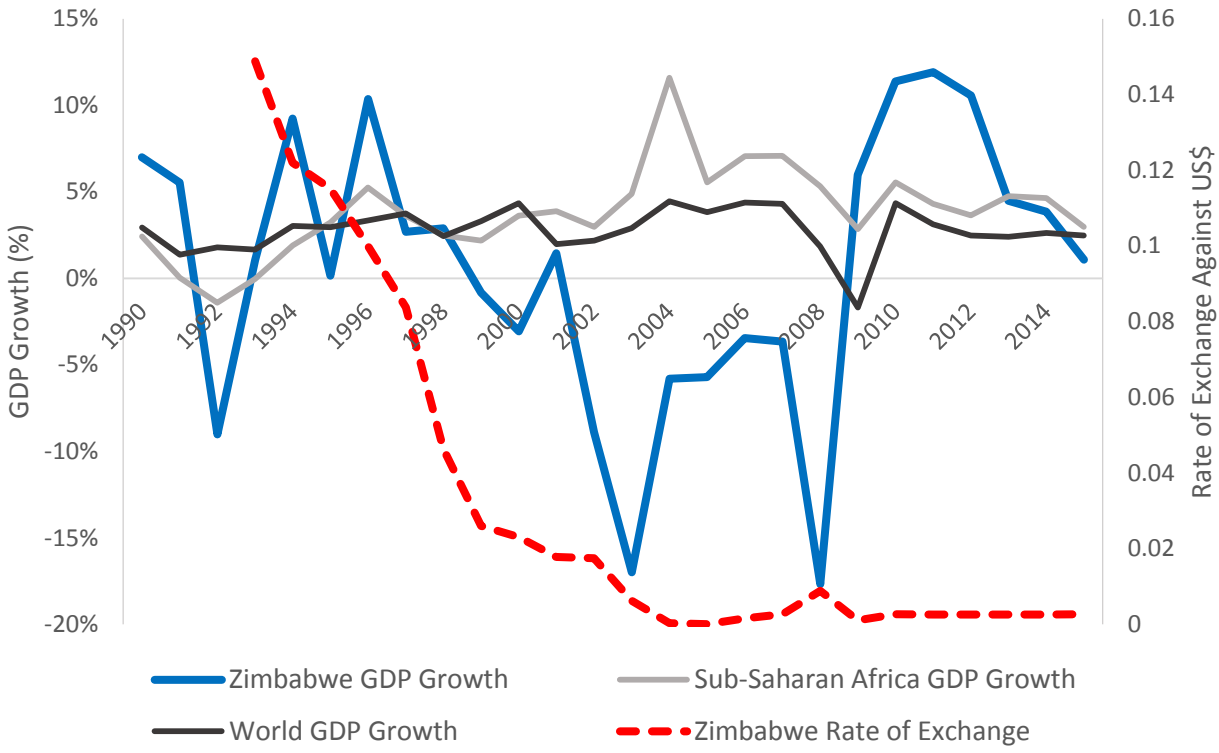
Zimbabwe's recent recovery from decades of contraction has faltered, and the economy faces serious challenges due to external and policy shocks. The political and economic crises that characterized the economy between 2000 and 2008 nearly halved Zimbabwe's GDP, raising poverty rates to more than 72 percent. Economic growth slowed from 3.8 percent in 2014 to 1.6 percent in 2016 as a result of weak domestic demand, high public debt, tight liquidity conditions, drought, poor infrastructure, institutional weaknesses and an overvalued exchange rate. Poor performance of government revenues against the background of high recurrent expenditures continues to constrain the fiscal space.

The country remains in debt distress, exacerbated by the lack of a diversified export base and declining terms of trade. In 2015, Zimbabwe proposed a plan to clear arrears and resume much needed financing from International Financial Institutions during 2016. However, delays in implementing this plan and

undertaking corrective fiscal reforms have contributed to the declining market confidence and sharp economic slowdown. More recently, growing dissatisfaction with economic and social challenges has seen a rise in public protests and a resurgence in political fragilities.

The American dollar is the main currency of Zimbabwe due to hyperinflation and the collapse of the Zimbabwean dollar. Inflation was over 230,000,000 percent in of 2008.[lii] The Zimbabwean dollar was excessively printed; hundred trillion-dollar bank notes were made ready for circulation. The scarcity of American dollars kept inflation low and allowed the economy to rebound slightly. At the end of November 2016, the government introduced new 'bond notes' and according to Reuters news: "Government officials are sending mixed messages about whether the bond notes constitute normal currency or not. The danger is not just that the shift fails to boost exports, but that worried citizens take what dollars they have out of the banking system".[liii] Zimbabwe will continue to need external support for the AIDS response. The 'AIDS Levy' is an interesting home-grown response that should be monitored and which may provide an innovative path for response.[8]

**Figure 18 – Zimbabwe GDP Growth and Exchange Rate[liv]**




## Currency Volatility and the HIV and AIDS Epidemic

There is no legal obligation for a country to give development assistance. Whether they give and how much will be determined by domestic politics, economics, and foreign policy. This is beyond the scope of

[8] For further information on the AIDS Levy and other innovative financing ideas see a recent report from the African Development Bank: Innovative Financing - Expanding the Fiscal Space for Health in Africa and Innovative Financing - Expanding the Fiscal Space for Health in Africa - Case Studies

this paper. However, a focus of this paper is on the currency issue and as donors give in foreign currency this is of great importance.

What makes currency fluctuations concerning is that the response to the AIDS epidemic requires substantial and consistent funding for the purchase of drugs. These come from external sources, and most are outside the continent. The ARV manufacturer in the Southern Africa, Aspen Pharmacare supplies just 20 percent of South Africa's drugs. In the past, the bulk of the resources for drugs were provided by donors, so local exchange rates were relatively unimportant (indeed falling exchange rates meant donor dollars went further for some purchases). However, with the growing emphasis on increasing domestic financing, falling currencies cause the purchasing power of domestic resources to drop. This means ever increasing funding will be needed in local currency.

This can be illustrated with the case of the rand (and the CMA). At the end of 2010, one rand bought US$0.14. In 2013, this was down to US$0.09. At its lowest level, in January 2016 the rand bought less than US$0.06. As of October 2016, one rand buys US$0.07. What this means is that the same amount of money has been worth less each year (with a slight rebound in 2016) for members of the CMA purchasing HIV and AIDS medicines or services in US dollars. The decline and volatility in the value of the rand is seen in Figure 19 which shows the US$ to ZAR exchange rate. It should be remembered that donor currencies are also subject to fluctuations, which we will return to before the conclusion.

**Figure 19 – South African Rand to United States Dollar**[lv]


The Botswana Pula, Zambian and Malawi Kwacha and Mozambican Meticais have the Rand as a major part of their basket of currencies determining exchange rates, so they face similar issues. This is shown on the graphs, country by country, in the previous section. The flip side to this problem is that the US dollar, and indeed many other donor currencies, will tend to go farther in this region. However, in the

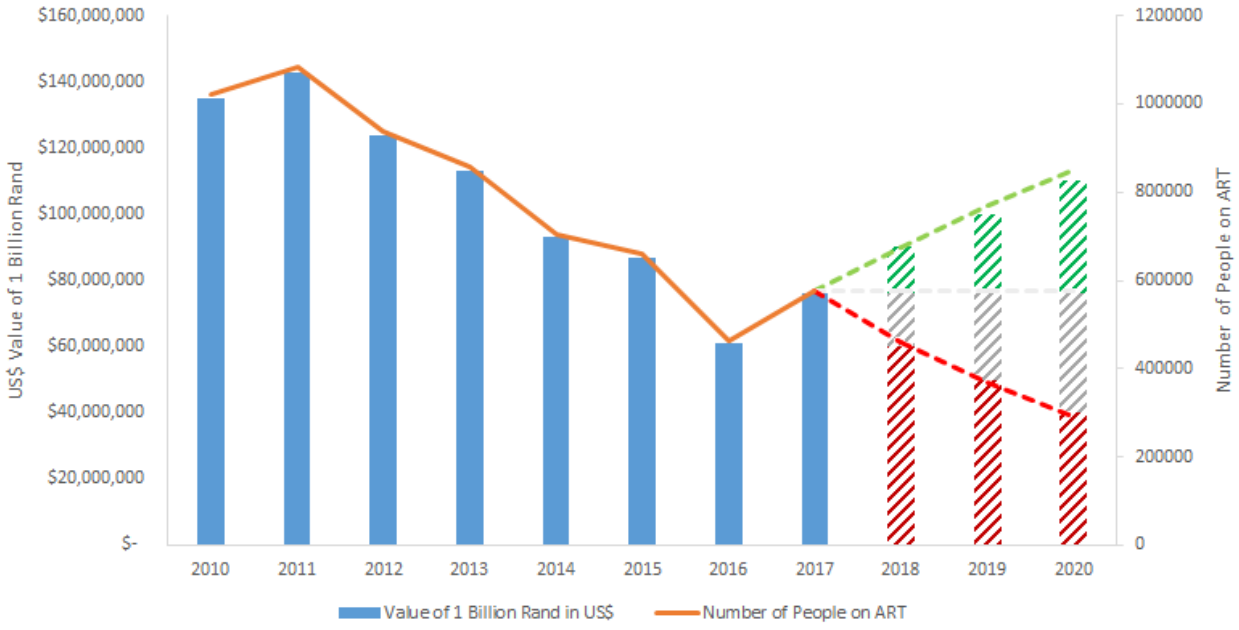
wake of stagnating (or even declining) levels of IDA it would be unwise to rely on donor currencies to make up the difference long-term.

In April 2017, South Africa had its debt downgraded to 'junk bond status,' which it had narrowly averted at the end of November 2016. This pushed down the value of the Rand and pushed up the cost of borrowing. This will have damaging consequence for the AIDS response, not least because of the effect on economic growth. The reason for the downgrade was the firing of the finance minister but generally, rating agencies feel political risks have increased, and will remain high until the African National Congress (ANC) electoral conference of in December 2017. Within days of the downgrade the rand lost a further 10 percent of its value and while there has been some recovery it remains volatile.

Figure 20 shows the impact that currency fluctuations have on the purchasing power of the South African rand. Each bar shows the value of R1 billion in US$ year-by-year. The line corresponds with the right-side axis and shows how many people South Africa could be on ART for R1 Billion if they had to purchase drugs in US$.

The greatest issue with currency fluctuations is that they are almost impossible to accurately predict. Indeed, if the rand appreciates relative to the US dollar we could see a scenario highlighted in green in Figure 20. Here we can afford to put more people on ART for less rand. Conversely the rand could depreciate relative to the US dollar and we could end up in the red scenario in Figure 20. If ART prices remain constant, South Africa (and indeed the rest of the region) will be able to buy less as a result. The takeaway is that currency fluctuations can and will have an impact on how far money can go and this impact needs to be taken into account and prepared for as best we can. In the past, we have been very fortunate that drug prices have fallen, from over US$10,000 pppy at the beginning of the epidemic to under US$200 pppy, but this trend may not continue

**Figure 20 – 1 Billion Rand to US Dollars**[lvi]

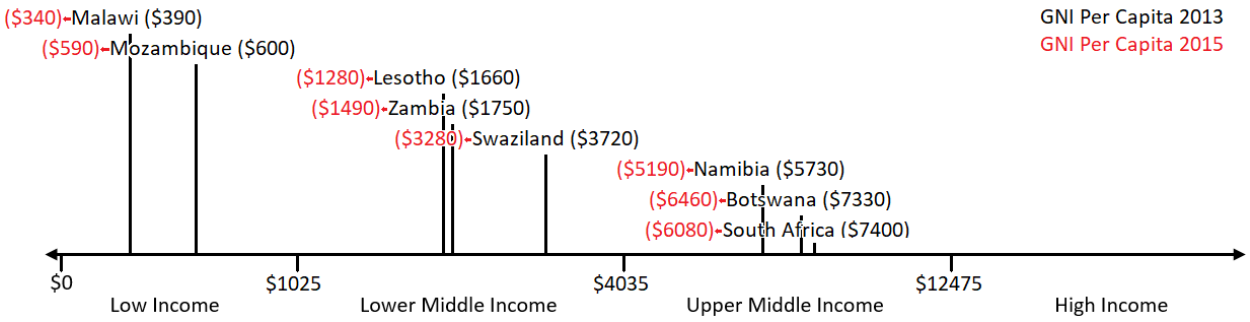


## The Impact of Rankings

An additional issue, as shown in Figure 21, is how World Bank country rankings can change as a result of currency fluctuations. If a country's currency changes significantly it could, unexpectedly, push their World Bank ranking to a lower or higher bracket. This could leave them liable to decreased foreign assistance (or conversely, they could find it easier to get international assistance).

Figure 21 shows the impact that depreciating currencies and subsequent decreased GNI per capita have on our countries of focus.[9]

**Figure 21 – World Bank Rankings based on GNI Per Capita**




According to the Bank website "Each year on July 1, the World Bank revises the analytical classification of the world's economies based on estimates of gross national income (GNI) per capita for the previous year. The updated GNI per capita estimates are also used as input to the World Bank's operational classification of economies that determines lending eligibility." [lvii] Unfortunately the 2016 and 2017 data have not been released.

GNI is calculated in the national currency and then converted to U.S. dollars at official exchange rates for comparisons across economies. To smooth fluctuations in prices and exchange rates, a special Atlas method of conversion is used by the World Bank. This applies a conversion factor that averages the exchange rate for a given year and the two preceding years, adjusted for differences in rates of inflation between the country, and through 2000, the G-5 countries (France, Germany, Japan, the United Kingdom, and the United States).

The placing of countries in these rankings has implications for their access to funding and the rates at which they can borrow from the International Development Association (IDA). It also has an (unquantifiable) effect on how countries are perceived and see themselves. For a country like Zambia, to fall from hard won lower-middle-income status to low income will be concerning.

IDA offers loans to developing countries that meet specific criteria at low or no interest. Funds are allocated to the recipient countries in relation to their income levels and record of success in managing their economies and their ongoing IDA projects. The lending terms are determined by looking at the recipient countries' risk of debt distress, the level of GNI per capita, and creditworthiness for the

[9] At the time of writing (June 2017) the World Bank has not released figures beyond 2015. These figures are an estimation based on currency fluctuations from 2015-2017.

International Bank for Reconstruction and Development (IBRD) borrowing. Countries with a greater need tend to receive more money in the form of non-repayable grants.

The Global Fund also produces criteria, which determine how their own resources are distributed to countries. Eligibility for support takes into account the health and economic landscape of countries and regions. It is designed to ensure that resources are allocated to countries with the highest disease burden and lowest economic capacity, as well as to key and vulnerable populations disproportionately affected by HIV and AIDS, Malaria, and Tuberculosis. Similar to the World Bank, Global Fund eligibility is determined by a country's income classification, as measured by gross national income (GNI) per capita (World Bank Atlas Method). However, the Global Fund also uses official disease burden classification to make its final decision.

## Conclusion

In the introduction to this report, we stated that we would address three major questions. The first, looked at what are the consequences for AIDS budgets as a result of significant changes in the value of currencies. This answer depends on a number of factors, from both the donor and the recipient's perspectives. The value of the countries currency relative to the US dollar (and conversely the value of the US dollar within recipient countries), how much of the HIV and AIDS budget is denominated in US dollars as opposed to the local currency, and the availability of alternatives for purchasing HIV and AIDS medicine will all have a tremendous impact on the effectiveness of the HIV and AIDS response in high burden countries. Currently a strong US dollar goes much further in recipient countries, but relatively weaker currencies in the UK, Sweden, Canada, and many recipient countries mean that their own impact towards the HIV and AIDS response may diminish unless funding levels are increased or unless these countries are purchasing goods and services in either their own currency (not through the Global Fund) or donating directly to countries whose own domestic currencies have depreciated relative to the donors.

The second question looked at how economic forecasts can be taken into consideration. Economic forecasting is an imperfect science. Donors and recipients can only predict to varying degrees of accuracy what their economic future will look like. The benefit of having these predictive models is that it allows for both donors and recipients to come up with contingency plans in the event that the economy does not perform as expected. We believe that in most countries, Ministries of Finance routinely have these projections; donors need to access and utilize them.

The final question looked at the implications in demotion or promotion of countries from income categories in the World Bank classifications. The rankings of countries in terms of income status may be affected if their currencies fluctuate. If a currency appreciates it may mean that that country will lose access to lower interest rates and easier access to money, whereas countries that see their currencies depreciate significantly may find themselves in a position of strength, however this will also have a negative impact on the view of their own development.

As the world works to meet financial commitments for successfully combatting HIV and AIDS (US$26.2 billion by 2020 and US$ 23.9 billion by 2030) it is crucial we take into consideration the ability of developing countries to finance their own response. While economic growth in part of Southern and Eastern Africa has been significant and positive, not all countries have the ability to fund the HIV and AIDS response.

To be explicit, over the medium term, 3-4 years, the overall international funding for HIV is not likely to change significantly. PEPFAR and Global Fund DAH will remain flat. At the same time given the history of support to HIV financing in a number of countries domestic resources are not materially relevant. Indeed, a number of countries will continue to rely significantly on international donations if they are to continue to rollout and keep people on treatment.

At the same time funding levels must remain high and grow to maintain the gains made over the past 15 years. This may not be feasible for domestic resources in some countries as economic uncertainty continues to permeate within the region. It may be too soon for the international community to transition to a system increasingly reliant on domestic contributions to fight the HIV and AIDS epidemic.

This paper has looked at impact fluctuating currencies have on a country's ability to finance its HIV and AIDS response. ART drugs, medical supplies, training, and expertise are usually paid for in US $. Exchange rates and currency fluctuations need serious consideration when looking at how much money is still needed to combat HIV and AIDS and where it will come from. This is especially important as hyper epidemic countries, which are closely linked through monetary agreements and tightly interwoven currencies. If one country falters, particularly a larger country such as South Africa, this will have dire consequences for many. In the long term the only way is reducing incidence, the number of new infections. This paper looks at the situation in mid-2017 but is not, and cannot be definitive. It should be read as a 'working paper' with suggestions for further policy analysis, research and refinement.

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# Appendix 1

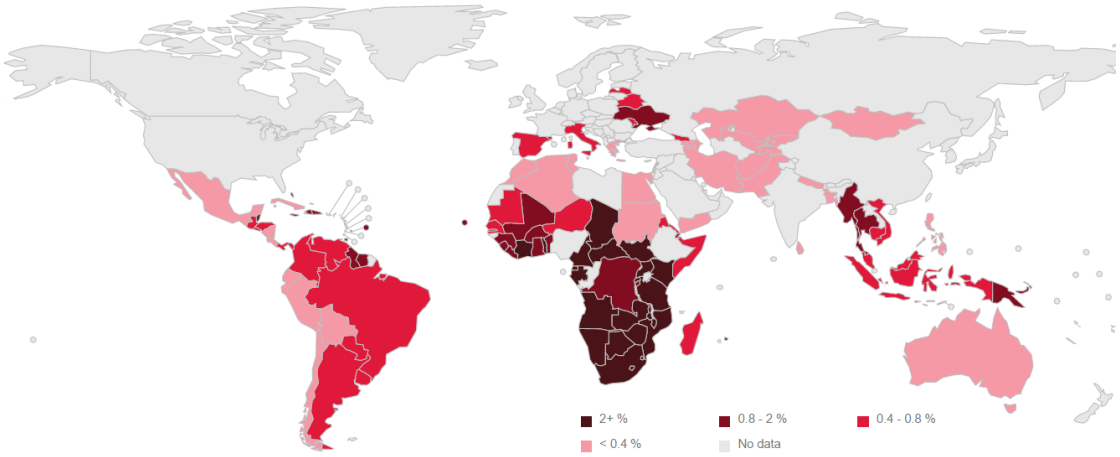
## A History of the Epidemic

The early years of the HIV and AIDS epidemic, from 1981 to 1990, were a period of great concern as the scale and trends of the disease were not understood. By the 1990s it was apparent that HIV was not going to be a problem of the same magnitude everywhere. UNAIDS and the WHO categorized four epidemiological scenarios:

- Low-level: where HIV has not spread to significant levels in any sub-population.
- Concentrated: prevalence is high enough in one or more sub-populations, such as MSM, IDUs, or sex workers and clients to maintain the epidemic, but it is not in the general population
- Generalised: where HIV prevalence is between 1–5 percent in pregnant women attending antenatal clinics. The presence of HIV in the general population is sufficient for sexual networking to drive the epidemic.
- Hyper-endemic: HIV is above 15 percent in adults in the general population, driven through extensive heterosexual multiple concurrent partner relations with low and inconsistent condom use. All sexually active persons are at risk.

Figure 7 shows global adult prevalence. The worst affected nations with adult prevalence above 10 percent are Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. The three countries with prevalence between 5 and 10 percent are Kenya, Malawi and Uganda. This work is of most relevance for those with the greatest disease burden coupled with high donor dependence and/or unstable currencies.

**Figure 7 – 2015 Adult HIV Prevalence**[lviii]




The HIV and AIDS landscape in the developed world changed considerable from about 1996. At the International AIDS Conference in Vancouver, 15 years after the epidemic was first identified, it was announced there were treatments – anti-retroviral therapies (ART) which would prolong the lives of those infected. The innovation was to combine three drugs. The treatment regimens were extremely

complex – numerous pills to be taken at prescribed times in a day, and they were eye wateringly expensive, $10 000 per person per year (pppy).

By 2000, the global impact of the epidemic was being acknowledged. The United Nations Security Council met to discuss the impact of AIDS in Africa (marking the first time a health issue was discussed as a threat to peace and security). The UN adopted the Millennium Development Goals (MDGs) which included a specific goal of reversing the spread of HIV and AIDS. The first United Nation's General Assembly Special Session on AIDS was held in 2001, and Secretary General Kofi Annan called for the creation of a global fund to combat the spread of HIV.

In 2002, the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) was established. In 2003, the United States President George W. Bush announced the creation of President's Emergency Plan for AIDS Relief (PEPFAR) in his State of the Union address. The first round of PEPFAR funding was $15 billion for 5-years, primarily for countries with a high burden of infections.

It was clear by 2003 that the international community was stepping up to the plate in a big way. There was also increased clarity as to which parts of the world and groups of people were being worst affected. Provision of ART was helped by the dramatic falls in price of drugs, easier dosing regimens and the expansion of health services (although HIV care tended to be provided in silos).

*The Epicentre*

Southern Africa had and continues to have the highest HIV prevalence. There were, in the early years of the epidemic, rapid rises in HIV in some Asia and East European countries, but this did not spread much beyond specific sub-populations. The Southern African epidemic data are shown in Table 1. Prevalence ranges from a high of 27.7 percent in adults aged 15 – 49 in Swaziland to 9.1 percent in Malawi.

One of the success stories of the past 10 years has been rolling out treatment. Significant numbers of people are now on life saving medication, but as the AIDS transition (described above) has not taken place, the cumulative number of people requiring treatment continues to rise. The cost of providing care increases, driven by the growth in numbers and the need to switch increasing numbers of patients to second, and where available, third lines of therapy. Lack of economic growth and currency fluctuations are a new threat to the AIDS programmes, especially as the funding transition picks up momentum.

*Financing the Response – History*

From the beginning of the epidemic in the 1980s, responses to the disease in the developing world were largely funded by international organizations (IOs), non-governmental organizations (NGOs), and foreign governments.

There were good reasons for the early dominance of international funding. The bulk of the science emanated from laboratories in the USA, UK, and France. Grassroots activism – which characterised the response to HIV, had it is origins in the USA and UK. The early spread of HIV was silent; indeed, prevalence levels in most Southern African countries were below 5 percent in 1990. Governments were not dealing with cases (sick people requiring care), but with invisible HIV infections.

**Table 1 – Country Data for HIV and Currencies**

| Country and Currency | HIV Prevalence (% of population ages 15-49) (2015)[lix] | People Living with HIV (2015)[lx] | Percent of People Receiving ART (2015)[lxi] | HIV Spending All Sources (US$ millions)[lxii] | Percent HIV Spending (Domestic Sources)[lxiii] | Percent Depreciation to US$ (2014-2016)[lxiv] | GNI Per Capita (2015)[lxv] | World Bank Ranking (2014)[lxvi] |
|---|---|---|---|---|---|---|---|---|
| Botswana Pula | 22.2 | 350000 | 78 | $390 (2011) | 76.7 | 27.2 | $6510 | Upper Middle Income |
| Lesotho Maloti | 22.7 | 310000 | 42 | $94.2 (2013) | 27.5 | 27.2 | $1330 (2014) | Lower Middle Income |
| Malawi Kwacha | 9.1 | 980000 | 61 | $145 (2012) | 8.2 | 41.5 | $350 | Low Income |
| Mozambique Meticais | 10.5 | 1500000 | 53 | $352 (2014) | 3.5 | 60.6 | $580 | Low Income |
| Namibia Dollar | 13.3 | 210000 | 69 | $211 (2013) | 64.7 | 27.2 | $5210 | Upper Middle Income |
| South Africa Rand | 19.2 | 7000000 | 48 | $1880 (2014) | 79.4 | 27.2 | $6050 | Upper Middle Income |
| Swaziland Emalangeni | 28.8 | 220000 | 67 | $96.9 (2013) | 34.2 | 27.2 | $3230 | Lower Middle Income |
| Zambia Kwacha | 12.9 | 1200000 | 63 | $279 (2012) | 5.7 | 43.8 | $1500 | Lower Middle Income |
| Zimbabwe Dollar | 14.7 | 1400000 | 62 | $253 (2013) | 13.6 | N/A | $850 | Low Income |

At the end of 2016, it is clear resources needed for HIV and AIDS will continue to increase. Improvements in treatment mean people infected with HIV can have close to normal life expectancy and AIDS deaths are decreasing. At the same time prevention efforts have not been universally successful, the number of infected people requiring medicines and care continues to rise. The need will be even greater with the global consensus that HIV infected individuals should commence treatment as early as possible.

The concept of an 'AIDS transition,' developed by Mead Over at the Centre of Global Development in Washington, is blindingly simple. This is shown in the earlier part of the paper. The AIDS transition suggests that, until the number of new infections falls below the number of deaths of HIV infected people, from whatever cause, the need for treatment will rise. If the lines do not cross, this number will grow indefinitely, as will the costs of combatting the epidemic.

*Financing the Response – Today*

From 2008 onward, a number of major shifts occurred in the global response. HIV and AIDS no longer held the status as **THE** premier global threat. In part, this was due to the success of expansion of treatment. Infected people were living longer, more productive lives as a result of cheaper ART. In 2000, when the International AIDS Conference was held in Durban, a basic antiretroviral (ARV) regimen cost over US$10 000 pppy. Today first line ART costs approximately $100 pppy for the lowest priced, generic drugs. The lowest-priced generic second line regimen, zidovudine/lamivudine (AZT/3TC) and atazanavir/r (ATV/r) is $286 pppy.[lxvii] HIV and AIDS policy has become normalized, shifting away from an emergency state, to a mode characterized by increased accountability for results, and an emphasis on cost-effectiveness.

In 2011 UNAIDS proposed an investment framework to reduce new infections and deaths in low and middle-income countries by 2015. This faltered, was revisited, and resulted in the 2015 document, "UNAIDS 2016-2021 Strategy: On the Fast-Track to end AIDS," which seeks a rapid scale up of effective intervention and treatment programmes. The UNAIDS targets are that by 2020, 90 percent of all people living with HIV know their HIV status; 90 percent of all people with diagnosed HIV infection receive sustained antiretroviral therapy; and 90 percent of all people receiving ART have viral suppression.

To pay for this UNAIDS proposed the funding target of at least US$30 billion for low- and middle-income countries (LMICs). It recommends: "low-income countries mobilize at least on average 12 percent of country resource needs, lower-middle-income countries mobilize 45 percent and upper-middle-income countries mobilize 95 percent."[lxviii] This marks a clear shift away from a world where HIV and AIDS funding primarily came from international donors. However, this shift in funding may prove difficult for some countries to manage. For example, as is shown in Table 1 only 3.5 percent of the money for HIV and AIDS came from domestic funding in Mozambique, in Zambia the proportion was just 5.7 percent. The resources available for HIV and AIDS in LMICs up to 2015 were shown on figure x.

By the end of 2015 however, UNAIDS estimated that US$19 billion was invested in LMICs which suggests that this chart may flat line. UNAIDS estimates US$26.2 billion will be required for the HIV and AIDS response by 2020.[lxix] What this means is, despite a significant amount of money, allocated by a range of donors, there is still a major need for more and continued financing. This was confirmed in a 2016 modelling paper in PlosOne.[lxx] The question where the money should come from is increasingly important, and increased domestic resource mobilisation is seen as one potential answer.

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[lviii] UNAIDS. (2016). AIDS Info
[lix] http://data.worldbank.org/indicator/SH.DYN.AIDS.ZSUNAIDS, retrieved from: http://aidsinfo.unaids.org/
[lx] UNAIDS, retrieved from: http://aidsinfo.unaids.org/
[lxi] UNAIDS, retrieved from: http://aidsinfo.unaids.org/#
[lxii] UNAIDS, retrieved from: http://aidsinfo.unaids.org/#
[lxiii] UNAIDS, retrieved from: http://aidsinfo.unaids.org/#
[lxiv] XE, retrieved from: http://www.xe.com/currencycharts/
[lxv] World Bank, retrieved from: http://data.worldbank.org/indicator/NY.GNP.PCAP.CD
[lxvi] Low-income economies are defined as those with a GNI per capita, calculated using the World Bank Atlas method, of $1,045 or less in 2014; middle-income economies are those with a GNI per capita of more than $1,045 but less than $12,736; high-income economies are those with a GNI per capita of $12,736 or more. Lower-middle-income and upper-middle-income economies are separated at a GNI per capita of $4,125.
[lxvii] 2016 MSF Untangling the Web of Antiretroviral Price Reductions pg. 2
[lxviii] UNAIDS. (2015). "UNAIDS 2016-2021 Strategy: On the Fast-Track to end AIDS," retrieved from: http://www.unaids.org/sites/default/files/media_asset/20151027_UNAIDS_PCB37_15_18_EN_rev1.pdf
[lxix] UNAIDS (2016). "UNAIDS 2016 Fact Sheet," retrieved from: http://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf
[lxx]: Stover J, Bollinger L, Izazola JA, Loures L, DeLay P, et al. (2016) Correction: What Is Required to End the AIDS Epidemic as a Public Health Threat by 2030? The Cost and Impact of the Fast-Track Approach. doi: info: doi/10.1371/journal.pone.0158253 1 Jun 2016

# Appendix 2

## Regional Economic Groups

This appendix provides a more in depth look into the regional economic groups in Southern and Eastern Africa.

*The Common Monetary Area*

In 1986, South Africa, Lesotho, and Swaziland established the CMA. Namibia subsequently joined in 1992. The agreement provides a framework for exchange rate and monetary policies. Its broad objectives are to "provide for the sustained economic development of the Common Monetary Area as a whole," "encourage the advancement of the less developed members," and, "afford to all parties' equitable benefits arising from the maintenance and development of the CMA as a whole."[lxxi]

The South African Rand is accepted in all countries but member states still issue their own currencies. These are exchanged at par with the Rand. Foreign exchange regulations and monetary policy throughout the CMA continues to reflect the influence of the South African Reserve Bank. If, as a result of South Africa's transactions with the rest of the world in a given period, the total inflow of foreign exchange is greater than the outflow, the supply of foreign currency exceeds the demand. Under these circumstances the Rand will appreciate, on average, against other currencies. Occasionally the South African Reserve Bank will intervene by purchasing or selling Rand in an effort to smooth out large, short-term, fluctuations in money-market liquidity or exchange rates.

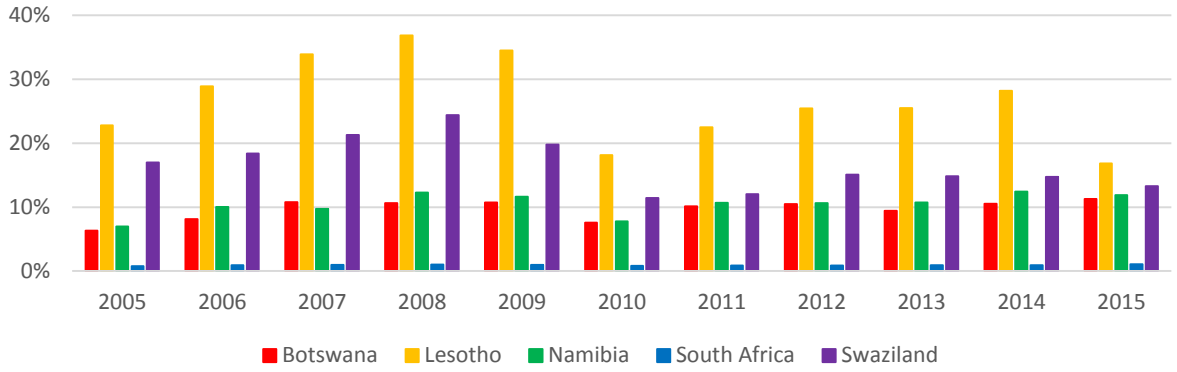
In addition to the underlying balance-of-payments position, the exchange rate of the Rand can be influenced by inflationary differences between South Africa and its main trading partners. If the inflation rate in South Africa is consistently higher than that of its major trading partners, South African consumers might import the cheaper goods. This will reduce South Africa's exports while the demand for imports will rise, the demand for foreign currency will increase, it will become relatively scarce and more expensive, and the Rand will depreciate against other currencies. Non-economic factors such as political developments, rumours, speculative transactions and unfavourable perceptions influence the value of the Rand.

A change in the value of the Rand leads to the same change in the value of the Lesotho Maloti, Namibian Dollar and Swazi Lilangeni. As the Rand dominates the CMA this means the value of the Loti, Namibian Dollar and lilangeni is essentially determined by South Africa. This has serious implications, especially in times of currency depreciation or economic stagnation, as the whole region is adversely affected.

*The Southern African Customs Union*

SACU comprises Botswana, Lesotho, Namibia, South Africa and Swaziland. The aim of the trade union is to maintain the free exchange of goods between member countries. It provides for a common external tariff and a common excise tariff in the customs area. All customs and excise collected in the common customs area are paid into South Africa's National Revenue Fund. The revenue is then shared among members according to the formula in the agreement.

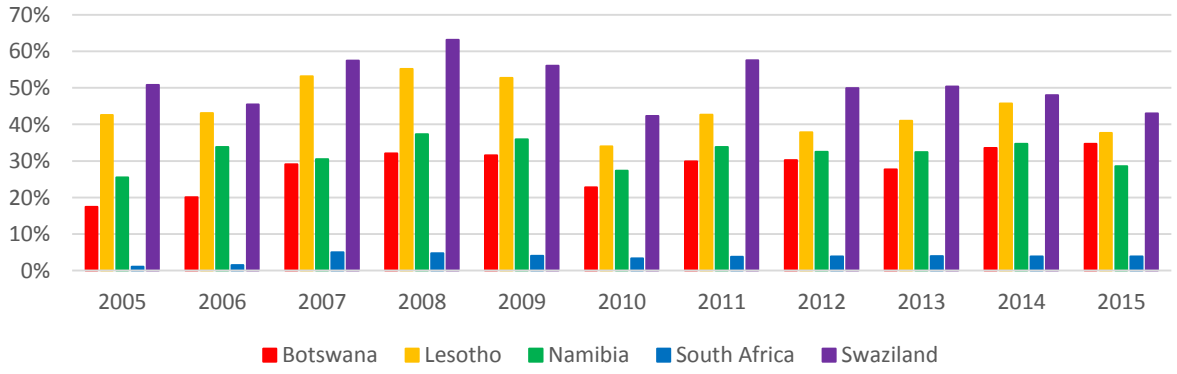
**Figure 1 – SACU Revenue as a Percent of GDP[1,lxxii]**




As in shown in Figures 1 and 2 SACU has great importance for the member countries, albeit to varying degrees. Lesotho is the most dependent in relation to GDP, an indication of limited domestic economic activity. Swaziland ranks second in this, but is most dependent on SACU for government revenue. The charts show the dip in revenue following the 2008 financial crisis, and a trend for SACU revenue to decline. The SACU agreement seems to be under almost constant renegotiation and it would be appropriate for an 'HIV lens' to be brought into the discussion.

Work in 2010 suggested six policy options were available for SACU members. (I) Lobbying for increased aid to offset the declining SACU revenue. This is short-term and unlikely to gain much traction. (ii) Fiscal restraint aimed at realigning government revenue with public expenditures. This is both a short and long-term solution. (iii) Increasing the fiscal deficit to avoid disrupting public projects amid declining government revenue. (iv) Restructuring the fiscal framework to move away from relying on SACU revenue, especially for recurrent expenditures. (v) Developing a long-term expenditure plan anchored on domestic revenue. (vi) Making efficient and effective use of public resources, a long-term solution, which involves streamlining the public sector, ensuring governments adhere to public expenditure ceilings, and there is priority targeting of public expenditures.[lxxiii]

**Figure 2 – SACU Revenue as a Percent of Government Revenue[2,lxxiv]**




[1] Figure 10 is an amalgamation of SACU Annual Reports for SACU Revenue and World Bank Data for GDP
[2] Figure 11 is an amalgamation of SACU Annual Reports for SACU Revenue and Economy Watch Data for Government Revenue

*The Southern African Development Community*

SADC is an inter-governmental organization headquartered in Gaborone, Botswana. Its goal is to further socio-economic cooperation and integration as well as political and security cooperation among the fifteen member states. In some areas, coordination of national activities and policies is the aim of the agreement. In others, the member states aim at more far-reaching forms of cooperation. For example, on foreign policy, the goal is coordination and cooperation. In terms of trade and economic policy the objective is establishing a common market with common regulatory institutions.

The SADC member states established the HIV and AIDS Unit at the SADC Secretariat and developed an HIV and AIDS Strategic Framework. It aimed to intensifying actions to address the 'devastating and pervasive impact of the HIV and AIDS pandemic in a comprehensive and complementary way'. The goal of the framework is to: 'Decrease the number of people living with and affected by HIV and AIDS in the SADC region, so as to ensure that HIV and AIDS is no longer a threat to public health and to the sustained socio-economic development of Member States.[lxxv] AIDS is a standing item on the agenda of the SADC Summit of Heads of State and Government and there have been various activities at the SADC parliamentary forum where there was an 'AIDS desk'.

*The Common Market for Eastern and Southern Africa (COMESA)*

This is a free trade area with nineteen member states. Participants include Burundi, Comoros, Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, Egypt, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, and Zimbabwe. COMESA was formed in December 1994, replacing a Preferential Trade Area which had existed since 1981. The importance of COMESA would be that, if there were local products that could assist in the response to the epidemic, these would be more easily tradable. However, it may also raise difficulties with non-members or come into a disagreement with other free trade areas. Free trade areas increase regional integration and reliance on the larger trading partners, they help smaller countries diversify trading partners and provide improved access to goods and services that may have been previously inaccessible.

# Appendix 3

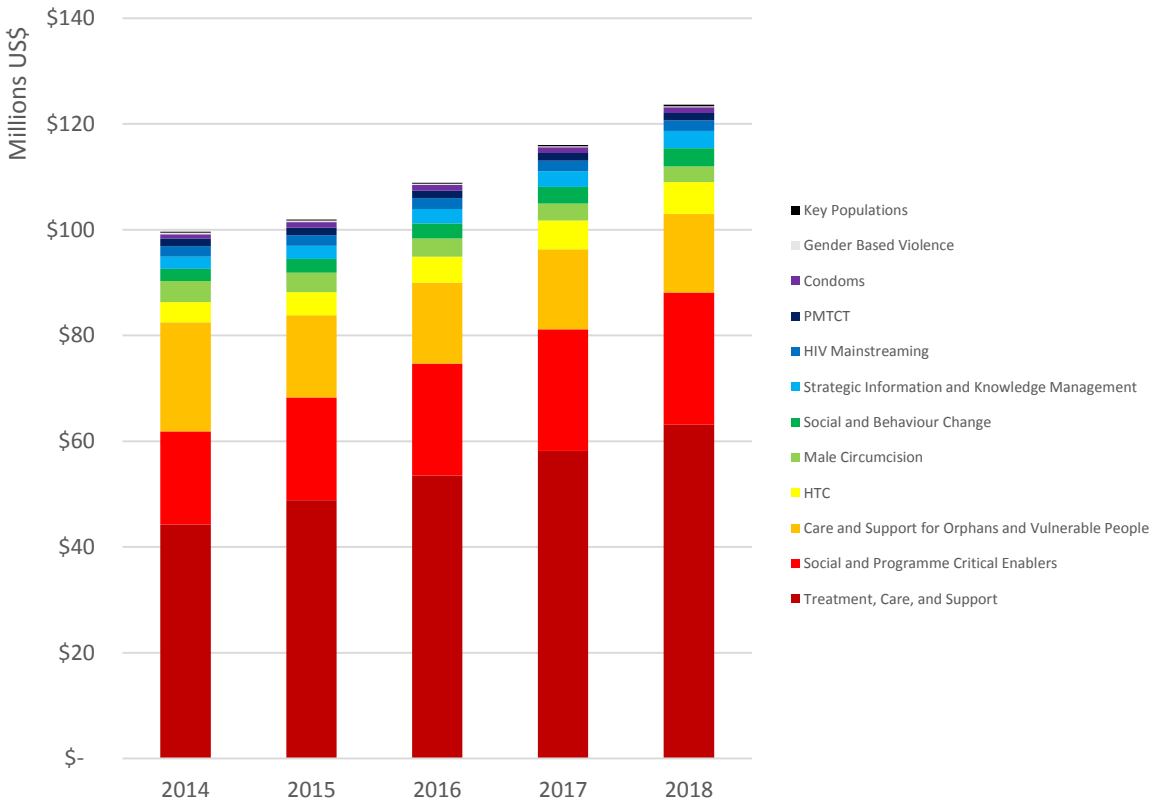
## Case Study: Swaziland

### HIV and AIDS

Swaziland is a country of almost 1.3 million people, located in southern Africa.[lxxvi] It is bordered by South Africa to the north, west, and south, and Mozambique to the east. Swaziland is the country with the highest HIV prevalence in the world, 28.8 percent of adults are infected as of 2015.[lxxvii] Approximately 220 000 people currently live with HIV, with an estimated 11 000 new infections predicted per year.

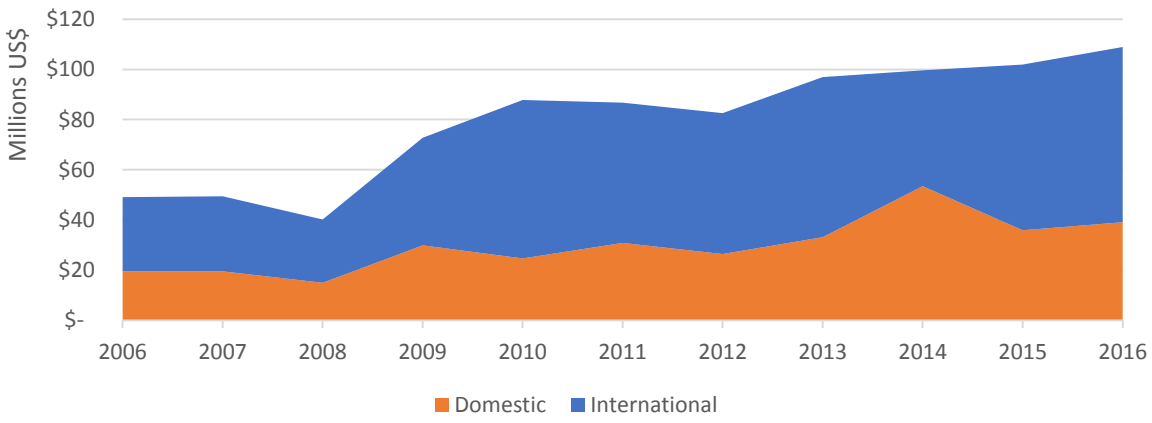
Swaziland's National Emergency Response Council on HIV and AIDS (NERCHA) predicts that HIV and AIDS financial needs will rise from $116 million in 2017 to $124 million in 2018. Figure 1 shows the breakdown of where these resources are and will be spent.

**Figure 1 – Financial Needs for HIV and AIDS in Swaziland[lxxviii]**




The HIV and AIDS response is primarily funded by external sources (PEPFAR, Global Fund, bilateral donors). Figure 2 shows total HIV and AIDS expenditure by domestic and international sources. Currently the country funds just over 30 percent of their HIV and AIDS response with domestic resources.

**Figure 2 – Swaziland HIV and AIDS Expenditure**[3][lxxix]




As is the case with most countries in the region, there is increased pressure to contribute more domestic money to the response. It is also expected that international donations will flatline or decrease.

**Economic Outlook**

Economic growth has stalled over the past year. As with most other countries in the region, Swaziland's agricultural sector has been hit by severe drought. Subdued trade prospects, particularly with South Africa as a result of economic downturns, have all contributed to weaker economic performance. Figure 3 looks at real gross domestic product (GDP) growth since 1990 in Swaziland, South Africa, sub-Saharan Africa, and the world. As with the rest of the world Swaziland was hit by the 2008 financial crisis and has struggled to get back to pre-crisis growth levels. GDP growth has slowed considerably from 3.0% in 2010 to 1.7% in 2016.[lxxx] The projection is for growth to turn upwards, but this may be premature.

[3] Figures are approximations compiled and derived by data from UNAIDS, PEPFAR, Global Fund, and NERCHA

**Figure 3 – Real GDP Growth**[lxxxi]

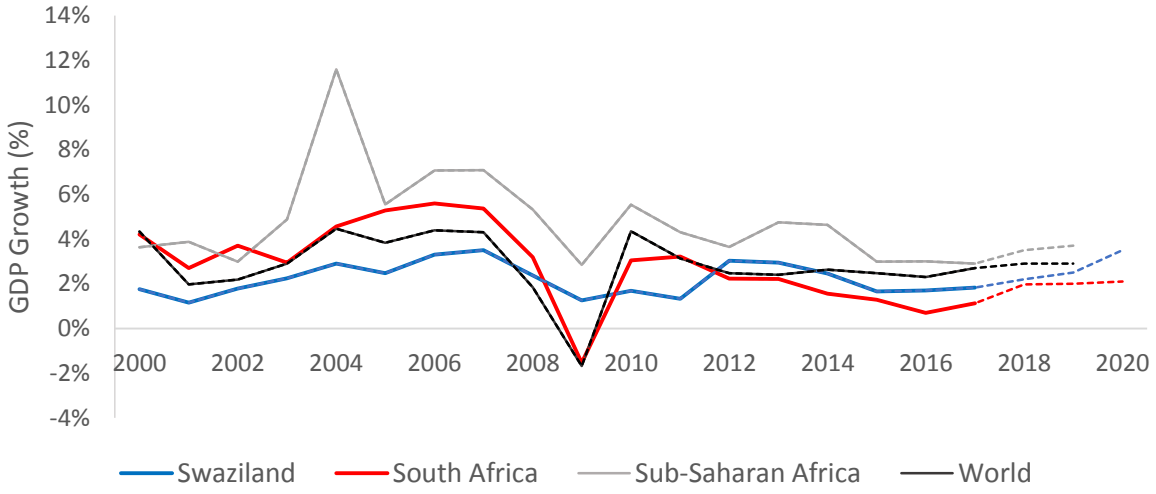
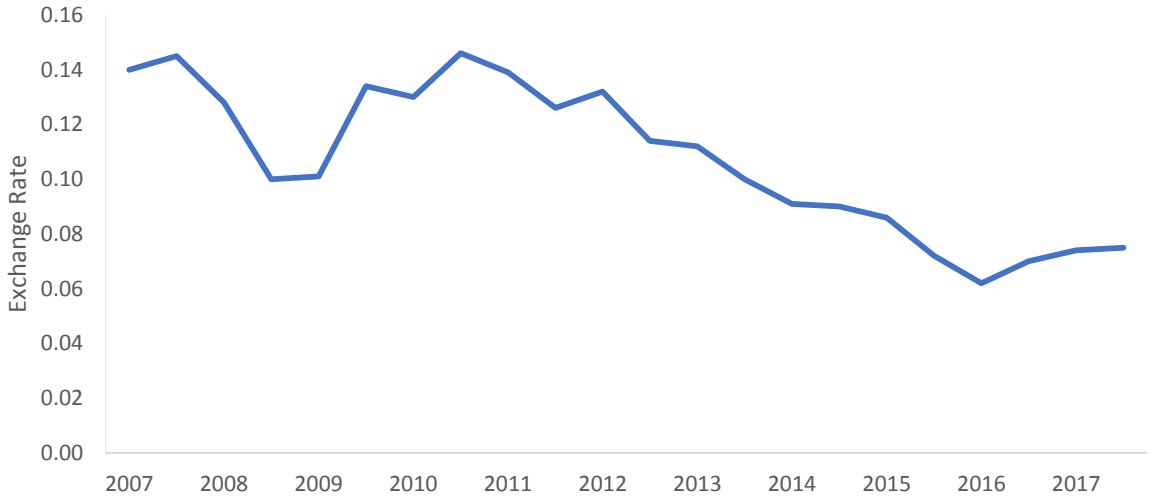



Figure 4 looks at the exchange rate between the Swazi lilangeni and the US dollar. In 2007, one lilangeni bought 0.14 dollars. As of February 2017, one lilangeni buys only 0.075 dollars. The strength of the lilangeni is bound to the South African Rand via the Common Monetary Area (CMA), which means that when South Africa's currency falters so to does Swaziland's. The CMA includes South Africa, Swaziland, Namibia, and Lesotho.

**Figure 4 – Swazi Lilangeni to US Dollar**[lxxxii]




This currency depreciation has two major and competing impacts on financing the HIV and AIDS response in Swaziland. First, the US dollar will now go farther if purchases are being made in Swaziland. For example, if a donor pledged US$10 million to Swaziland in 2007 (this would be approximately 71 million emalangeni) and another US$10 million in 2017 (this would be approximately 133 million emalangeni), the US$10 million in 2017 will be able to buy more. Secondly, Swaziland's domestic response is significantly hindered if domestic funds are being to purchase goods and services in US dollars. Currency fluctuations have a significant, and understudied impact on financing the HIV and AIDS

response, both domestically and internationally. Obviously, donor currencies are also subject to fluctuation, as has been seen recently with the British pound. This aspect of financing will be addressed further.

[lxxi] Wang et al. (2007). "The Common Monetary Area in Southern Africa: Shocks, Adjustment, and Policy Challenges," *IMF Working Paper,* retrieved from: https://www.imf.org/external/pubs/ft/wp/2007/wp07158.pdf
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