



ARE ENDING AIDS 2030  
AND UHC POLICY  
OBJECTIVES JOINTLY  
ATTAINABLE IN SADC?  
A FISCAL PERSPECTIVE



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# SUMMARY



## A Fiscal Perspective

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The Southern Africa Development Community and its Member States are committed to the twin policy objectives of Universal Health Coverage and Ending AIDS in 2030. However, the funding landscape for health and HIV will change dramatically over the coming 15 years. This paper explores how changes in funding sources impact on countries' ability to achieve UHC and HIV policy goals.

We first examine the SADC political, epidemiological and economic context. We then determine the cost of achieving UHC and Ending AIDS in 2030, separately and combined (taking a HIV within UHC perspective), and benchmark this cost against the fiscal space for health and HIV

generated over the next 15 years by the current funding strategies of SADC Member States. We conclude that this would leave Member States short of financial resources to achieve universal coverage for health and HIV. We then explore which fiscal policy initiatives Member States can take to increase fiscal space for health and HIV. We find that a combination of reprioritisation of government spending towards health and HIV, expansion of fiscal space earmarked to health and HIV, and technical efficiency savings yield more than enough resources to achieve health and HIV resource needs combined. However, a great variation exists across SADC Member States, and some countries will not be able to generate sufficient resources to achieve these policy goals.

## 1 Political, Epidemiological and Economic Context

**1. The SADC is a political institution through which Member States cooperate, negotiate and collectively determine legislation and policy.** It

has the sway to operationalise regional agreements and, thereby, to guide national-level policy making, planning and budgeting efforts. The institution

can be instrumental in supporting health and HIV financing policy reform across the region.

- 2. Differences in life expectancy, maternal, infant and under-5 mortality, HIV prevalence and incidence, immunisation coverage and the percentage of births assisted by trained health workers, reflects the variation of both the epidemiological profiles and the capacity of the national health systems to address population health needs.** This implies that the path to universal coverage of health and HIV services will vary across countries.
- 3. HIV & AIDS, TB and malaria remain the largest contributors to morbidity and mortality across SADC.** The region continues to experience the most severe HIV prevalence in the world and the world's top nine most highly infected countries are SADC Member States. Tuberculosis is experiencing a resurgence in the region as a result of the HIV epidemic and eight SADC Member States are among the fifteen countries with the highest TB incidence rate in the world. Malaria is endemic across the remaining seven SADC Member States and 75% of SADC's population is at risk of contracting malaria.
- 4. SADC Members States have made significant progress in tackling these communicable diseases.** The number of people enrolled onto antiretroviral therapy (ART) has increased tenfold between 2005 and 2012 and the rate of new HIV infections has been reduced by more than 30% across the region as a whole and by more than 50% in seven Member States. Progress against TB has been less dramatic and the burden of TB remains high, however the TB epidemic appears to have matured in most Member States. By the end of 2010, six Member States had recorded greater than 50% reductions in the burden of malaria.
- 5. At the same time, non-communicable diseases (NCDs) such as heart disease, diabetes, and cancers are rising rapidly.** Influenced by rapid urbanisation, changing diets and improvements in the control of Communicable Diseases the WHO projects that NCDs will become the leading cause of ill health and death in the region by 2030. However, today a mixed picture emerges when looking at the contribution of non-communicable diseases to DALYs across Member States, reflecting the varying stages of epidemiological transition within their populations.
- 6. Africa's economies are growing rapidly and Africa's economic growth has been remarkably resilient, even in the face of an uncertain global economy.** Over the past decade Africa has been the second fastest growing region in the world with an average annual GDP growth rate of 5.1%. In 2006, 13 African countries were categorised as middle-income. By 2013, that number had climbed to 21<sup>1</sup>. Between 2013–2023 Africa's GDP is expected to grow by an average exceeding 6% per year – outstripping that of any other world. If projected growth is achieved, another 10 countries will attain middle-income status by 2025, raising the total number of Africa's middle income countries to 31 of 54 – almost triple that of 2006.

<sup>1</sup> World Bank. "Africa's Pulse: An analysis of issues shaping Africa's economic future" in Africa's Pulse, 2013.



7. **While the SADC Member States pursue regional integration and economic convergence they exhibit vast differences in size, scope and level of economic development.** South Africa is the 27th largest economy in the world while the Democratic Republic of the Congo (DRC), Malawi, Mozambique and Zimbabwe are among the world's smallest. Similarly, their income structures vary, with four SADC Member States disproportionately reliant upon income from the Southern African Customs Union (SACU).
8. **Projected economic growth in SADC remains strong overall, with high variability between Member States,** ranging from a real growth rate of 2% (Angola) in 2019/20, to 7% (Malawi, Mozambique). Between-country differences in economic development will have to be acknowledged when elaborating a joint SADC wide framework for action.
9. **Positive economic prospects are further supported by a demographic transition.** Falling birth rates and associated decline in the dependency ratio combined with an increase in the working age population offer the opportunity of a demographic dividend that supports SADC's growth in the coming decades.

## 2 Health and HIV Expenditure Trends

10. **The real Total Health Expenditure (THE) is 163 USD per capita on average throughout the region in 2012/13 but there's a high variation between Member States.** THE is over 400 USD per person in Seychelles whilst 8 USD per person in Congo DRC and Madagascar. Putting this into economic context, THE amounts to 7.8% of the regional GDP. Lesotho spends the most at 12.9%, followed by Malawi at 11.3%, and Namibia, South Africa and Swaziland with just less than 10%. Angola, Congo DRC, Madagascar, and Seychelles all spend less than 5% of GDP on health.
11. **Overall 82% of health care financing comes from pooled domestic sources,** with 46% from governments, and 36% from the private sector (mostly voluntary health insurance). Only 11% is from out of pocket (OOP) spending and 7% from external funding.
12. **However, excluding South Africa, the remaining 14 countries have a donor dependency of 20% and out of pocket spending of 20%, with a further high variation in funding sources by income status.** Longer term sustainability of financing for health and HIV is therefore an important challenge in the region, certainly in light of UHC and Ending AIDS 2030, which both require sustained and high levels of expenditure. Low income SADC countries on average have government health expenditure of only 23% of THE. Donor dependency is 36% and OOP spending is 24% of THE. Lower-middle income SADC countries government contribution to health is higher at 42% and they depend on donors for 25% of their THE; and OOP is still relatively high at 21% of THE. The upper-middle SADC countries fund 88% of THE from domestic sources – 48% from Government and 40% from the private sector. Only 2% comes from donors and OOP expenditure is low at 9%.

- 13. On average SADC countries allocate 8.3% of general government expenditure to health, but with high variability between countries.** The governments of Namibia, South Africa, Swaziland, and Lesotho all spend 12-14% of their budget on health. Mozambique and Tanzania spend less than 3%.
- 14. The average spent on HIV/AIDS per capita, using a disease burden approach<sup>2</sup>, is 152 USD, with great variability across the SADC countries.** Botswana, Mauritius and Namibia all have relatively high expenditures at over 300 USD, whilst Madagascar, Malawi and Mozambique spend less than 30 USD per capita.
- 15. 42% of total HIV expenditure in SADC is funded by international donors. Excluding South Africa, donor contributions rise to 63%,** making the HIV Response highly donor dependent. Half of all HIVAIDS spending in SADC is from government budgets. Excluding South Africa, the share of government spending in total HIV spending falls to 1/3.
- 16. SADC governments contribute proportionally more on HIVAIDS as their incomes rise.** In low income countries the share of public spending in total HIVAIDS expenditure is 20%, rising to 30% for lower middle income countries, and 73% for upper middle income SADC countries.
- 17. Donor dependency declines as income rises.** Low income countries are currently reliant on external financing for HIVAIDS by almost 80%, this declines to two thirds for lower-middle income countries and to 20% for upper middle income countries in SADC.
- 18. The average spend on HIVAIDS across SADC accounts for 0.35% of GDP and 1.3% of the budget. However, the priority given to HIV in budget allocation varies significantly across countries.** In general a governments' contribution to HIVAIDS rises with income, however there are exceptions. Angola and Mauritius spend much less than the upper middle income average; Tanzania and Zimbabwe spend significantly more than the low income average; and Botswana, Lesotho and Namibia spend a relatively large proportion on HIVAIDS: around 5% of their national budgets go to HIVAIDS, reaching over 1% of GDP.
- 19. Resch' DIPI<sup>3</sup> averages 0.8 across SADC. The DIPI by income group shows that there is some greater prioritisation towards HIVAIDS as incomes rise, however, there is still important variation across this trend.** Eight SADC countries have a low DIPI (less than 0.3) and these are scattered throughout the income groupings; four low income countries (Congo, Madagascar, Malawi and Zimbabwe); one lower middle income country (Zambia); and three upper middle income countries (Angola, Seychelles, and South Africa). It is clear that a higher GDP per capita does not necessarily equate to a greater proportional amount spent on HIVAIDS needs.
- 20. To protect HIV spending from decreasing donor support, it should be more closely linked to health**

<sup>2</sup> Total real HIV spending / [(AIDS DALYs/TOTAL DALYs)\*country population]

<sup>3</sup> Resch DIPI =  $\frac{\text{GAE} / \text{GHE}}{\text{AIDS DALYs} / \text{TOTAL DALYs}}$



spending. Across the SADC government contribution to health and HIV are not necessarily linked to income. And spending on health is not necessarily linked in a particular way to spending on HIV. Donor dependency in HIV is more than 6 times that in health; 42% compared to 7%. Therefore the expected decline in

external funding for HIV in the coming years is expected to affect all SADC countries to a great extent, and may have a more substantial impact on HIV sector. It is important then to consider how health and HIV expenditures can be linked in an attempt to shelter HIV within the Universal Health Coverage agenda.

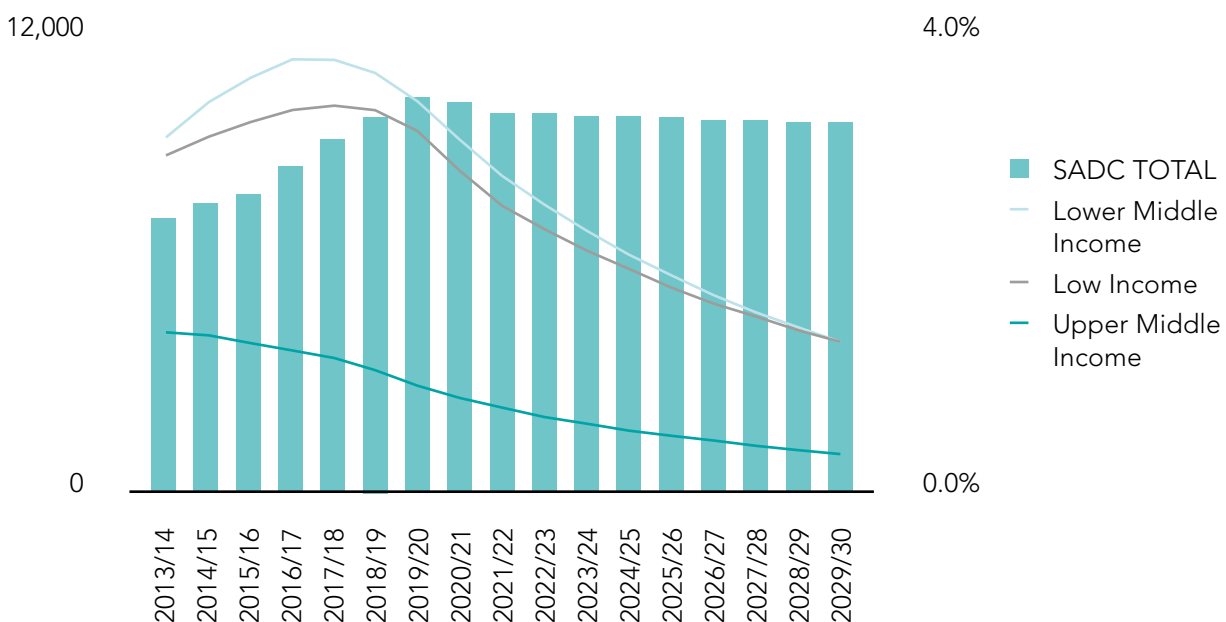
### 3 Resource Needs

**21. The projected HIV resource needs amount to an average of 9.3 billion USD per annum across the region, peaking in 2019/20 before declining slightly to 2029/30, but the variability of resources required for HIV is high between Member States.** For HIV resource needs we have used those supplied by UNAIDS covering the period 2015-2030 for SADC Member States. This

equates to 0.8% of the total GDP for the region, and declines in real terms over the projection period from 1.1% to 0.4%. However, the variability between SADC Member States is high: the resource needs for low and lower-middle income countries is a much greater burden on their economies – averaging almost 2.5% of GDP. For upper middle income countries this averages 0.8% of GDP.

F.1

**TOTAL HIV/AIDS RESOURCE NEEDS IN SADC (M USD) AND BY INCOME STATUS (AS % GDP)**

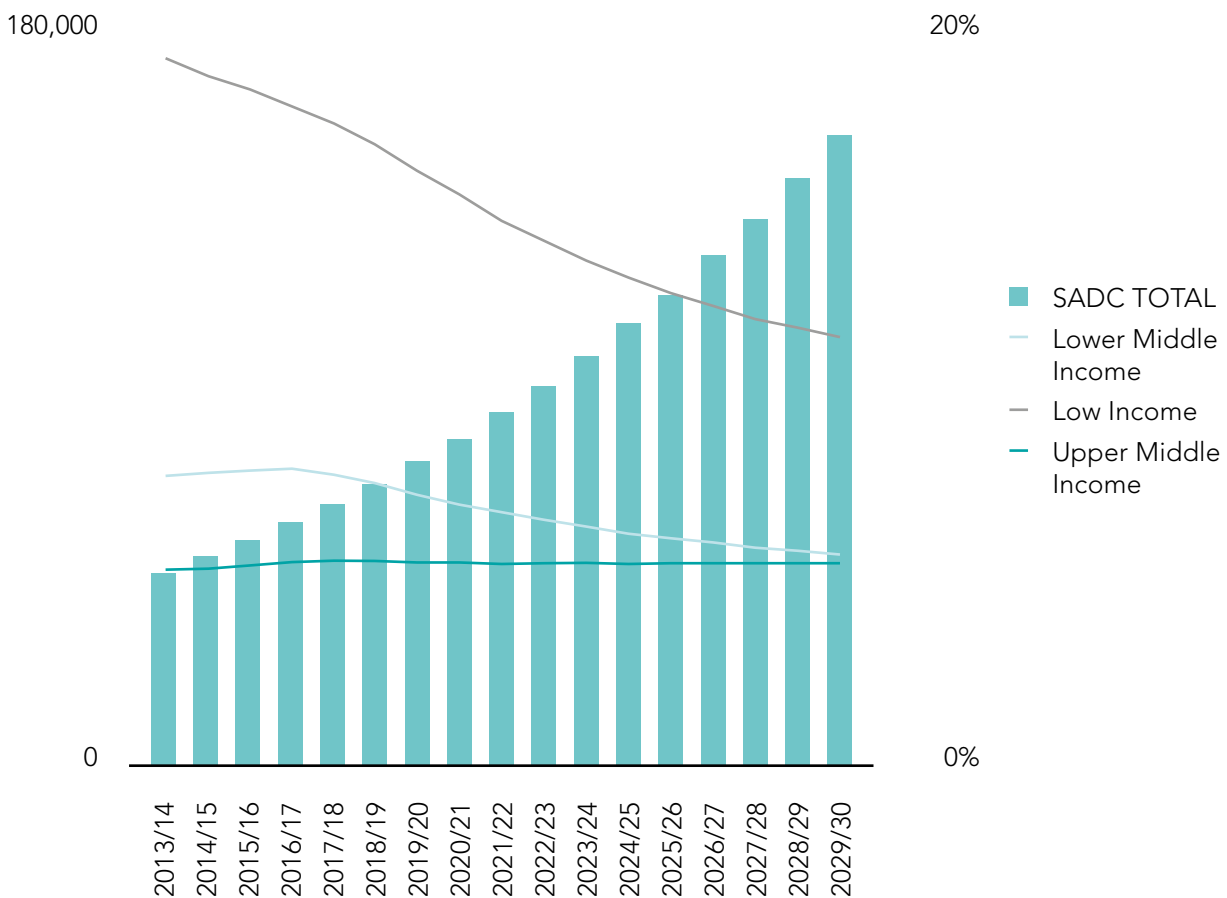


**22. Unlike resource needs for HIV, those for health are projected to continue to rise every year over the next fifteen years: from 50 billion USD to 156 billion by 2029/30. This would account for 7.1% of the regional GDP, with the higher burden falling disproportionately onto poor Member States.** For health resource needs we use a normative framework based on recent research that estimates the cost of Universal Health Coverage (UHC) for a basic package of health services, expressed as a double target: either public health funding of 5% of GDP but not less than 86 USD (2012 dollars) per

capita. The latter condition is added in the knowledge that even if some low-income countries spend 5% of GDP on health, they would not reach US\$ 86 per capita. Disaggregating this by income status gives a slightly different finding from the HIV/AIDS resource needs. For HIV, the cost of dealing with the epidemic is high (as a proportion of the size of the economy) for both low and lower-middle income SADC countries. The cost to fund UHC in health, however, impacts disproportionately low income SADC countries, in which the economic burden is double that of the lower- and upper-middle income SADC countries.

## F.2

### TOTAL HEALTH RESOURCE NEEDS IN SADC (M USD) AND BY INCOME STATUS (AS % GDP)



**23. The combined health and HIV resource needs are projected to move from 54 billion USD in 2015/16 to 141 billion by 2029/30. This would account for 6.7% of the regional GDP over the time period, with the heavier burden falling onto lower-income Member States.** To create a scenario where HIV resource needs are combined with health resource needs we need to consider how much

of the UHC package is HIV-related, and how much of the HIV needs are health related. The combined health and HIV resource needs are less than if simply adding health and HIV needs together as we have attempted to extract any duplication. This means that on average throughout the region the share of UHC resource needs allocated to HIV, more than cover the total UNAIDS HIV resource needs.

## 4 Resource Gap with Current Funding Strategies

**24. If SADC Member States do not take additional initiatives to fund HIV and health, i.e. they would continue to rely on the current sources of funding, they will not mobilise enough resources to meet the HIV, health and combined health and HIV resource needs, and not be able to meet the UHC and Ending AIDS in 2030 policy objectives.**

**25. For health, a business as usual funding strategy provides a resource gap which averages 25 billion USD a year over the next fifteen years, reaching almost 34.5 billion USD by 2029/30, accounting for 1.9% of the regional GDP and 6.9% of the total governments' budget across the member states. But there's a high variability across the region.** South Africa is the only country without a gap, and it is projected that it could cover its health needs with a surplus of 0.3% of GDP. DRC and Tanzania have the largest nominal gaps; 7.7 and 6.1 billion USD, respectively. Relative to the size of the economy it is Malawi that has the greatest burden with the resource gap at 20% of its GDP. Madagascar has a large burden accounting for 12.5% of GDP and DRC's gap is 10.5% of GDP. The rest are less than 10% with Tanzania

and Mozambique both over 5% (8.6% and 6.9%, respectively). In terms of government national budgets Malawi, Madagascar, DRC, and Tanzania have a substantial health burden of more than 40% of their budgets and in Malawi's case this is averaging 84% of the projected available budget. The gaps for Mozambique, Lesotho and Zimbabwe are over 10% of their budgets. The remainder are less than 10%.

**26. For HIV, the resource gap averages 3.2 billion USD a year over the next fifteen years, peaking at almost 4.7 billion USD by 2019/20, accounting for 0.3% of the regional GDP and 1.0% of the total governments' budget across the member states, again with high variation across countries.** Namibia and the Seychelles are the only countries to have a surplus for HIVAIDS, averaging 0.3% and 0.2% of GDP pa, respectively. This means that technically there are enough funds to cover HIVAIDS needs but this will depend upon allocation. Mozambique has the largest nominal resource gap at 0.9 billion USD pa. In relation to their economy the greatest burden falls on Malawi (2.9% of GDP), Mozambique (2.2%), Swaziland (1.7%)

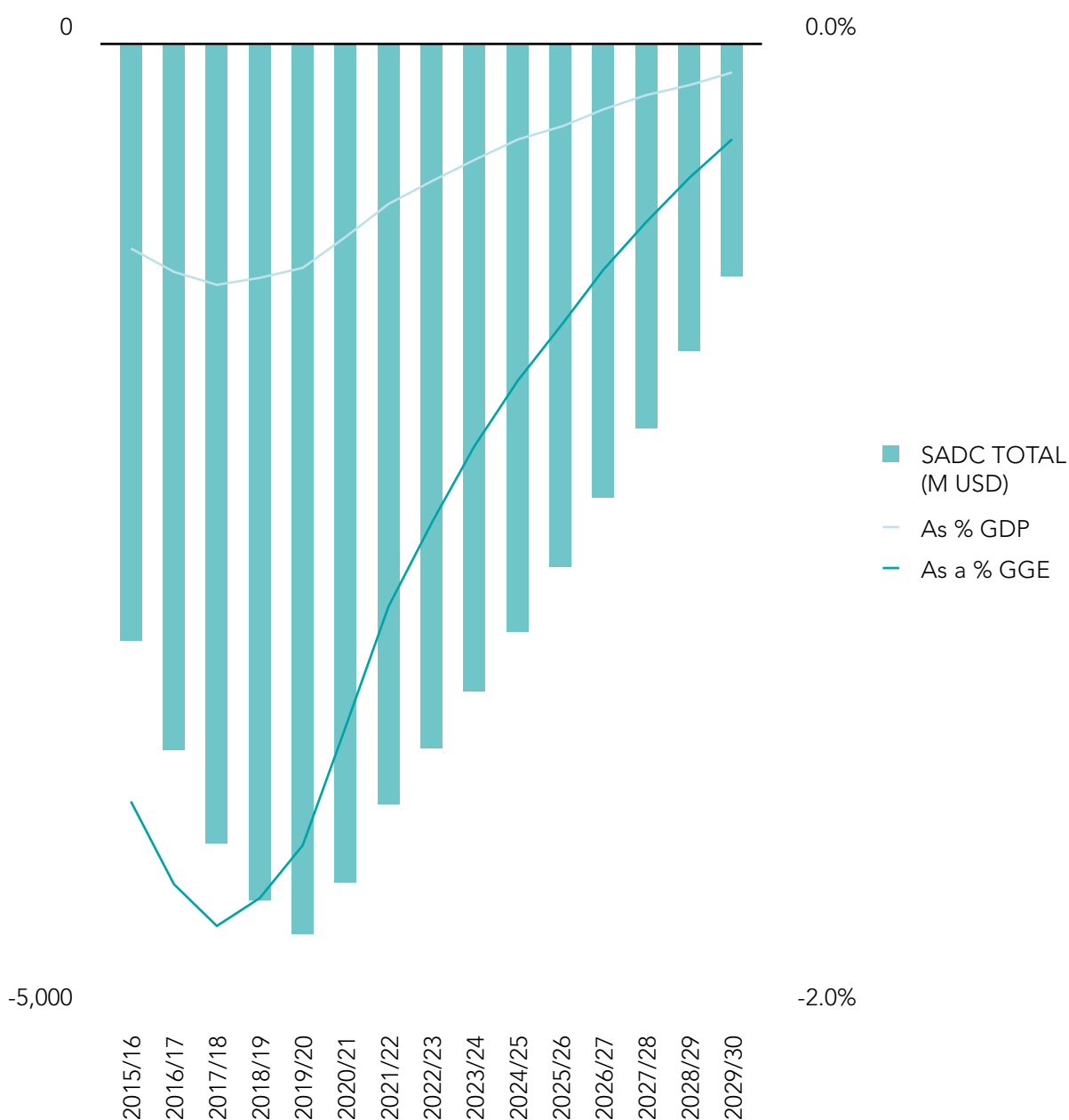


and Zimbabwe (1.2%). The remainder have a gap of less than 1% of GDP. Those greater than 0.5%, in order of magnitude, are Zambia, Lesotho, Botswana, and Congo DRC. Countries with greatest

difficult in terms of ability to pay from the budget are Malawi and Madagascar where the gap is greater than 10% of their budget. Swaziland is 7%, the remainder are less than 5%.

# F.3

## SADC REGIONAL HIVAIDS RESOURCE GAP M USD AND AS PERCENTAGE OF GDP AND BUDGET (2015/16 TO 2029/30)



**27. The resource gap for health and HIV combined averages 28.3 billion USD a year over the next fifteen years, reaching 35.7 billion USD by 2029/30. This would account for 2.2% of the regional GDP and 7.9% of the total governments' budget across the member states. The burden over time is declining as economies grow.**

South Africa is the only country without a gap, it is projected that South Africa could cover its HIVAIDS and UHC needs with a surplus of 0.2% of GDP. This means that technically there are enough funds to cover needs but this will depend upon allocation. DRC and Tanzania have the largest combined HIVAIDS and UHC gaps in the region; 8.1 and 6.4 billion USD pa, respectively. As a proportion of the economy Malawi has the largest burden with 24% of GDP pa projected to be not payable out of current budget allocations and donor funds. Madagascar, Congo DRC, Mozambique and Tanzania all have a resource gap at around 10% of their GDPs. The remainder of SADC countries have a gap of less than 5% of GDP. Malawi's combined HIVAIDS and UHC resource gap is projected

to equate to its entire budget – 96% on average over the 15 years. Other countries with a serious challenge to paying for UHC through domestic means, in order of magnitude, are Madagascar, Congo DRC, Tanzania, and Mozambique, all have a resource gap over 40% of their budgets.

**28. All of the SADC countries will be struggling to provide UHC with or without HIV over the next fifteen years.**

Some of these countries need to alter their current allocations to ensure UHC is provided; others may need a substantially greater prioritisation of health and HIV to achieve the goal of UHC including HIV.

**29. 29. While some countries are expected to have enough fiscal space for HIV alone from 2020/21 onwards, the HIV resource needs methodology assumes that expenditure on HIV is frontloaded, i.e. a higher investment is made in the period 2015-2020, in order to maximise population benefits and to keep total costs at a minimum.**

During this period, all SADC Member States face a funding gap with a funding strategy of 'business as usual'.

## 5 Funding Gap after additional fiscal policy initiatives

**30. SADC as a whole can generate enough additional fiscal space from reprioritisation of public spending towards health and HIV, additional taxes with proceeds earmarked to health and HIV, and increased efficiency of health and HIV service delivery to plug the combined financing gap. However, even these strategies will not allow some Member States to**

**generate enough resources to meet the UHC and Ending AIDS 2030 policy objectives.** Efficiency savings, budgetary financing (reprioritisation) and earmarked financing could cover the UHC and HIV needs throughout the region by 2019/20. However, DRC, Madagascar, Malawi, Mozambique and Tanzania will not find enough resources to close the gap before 2030.

# F.4

## TOTAL HEALTH RESOURCE NEEDS IN SADC (M USD) AND BY INCOME STATUS (AS % GDP)



**31. Reprioritisation of public spending towards health and HIV follows benchmarks that are both politically and economically feasible. Once these reprioritisation targets are set the new resource gap is 13 billion USD smaller on average per year over the projection period. As a proportion of the regional economy the resource gap could fall from 2.2% of GDP to 1.4% pa over the fifteen years. For upper middle countries this single policy action of raising budgetary allocation may almost eradicate the resource gap by 2029/30.**

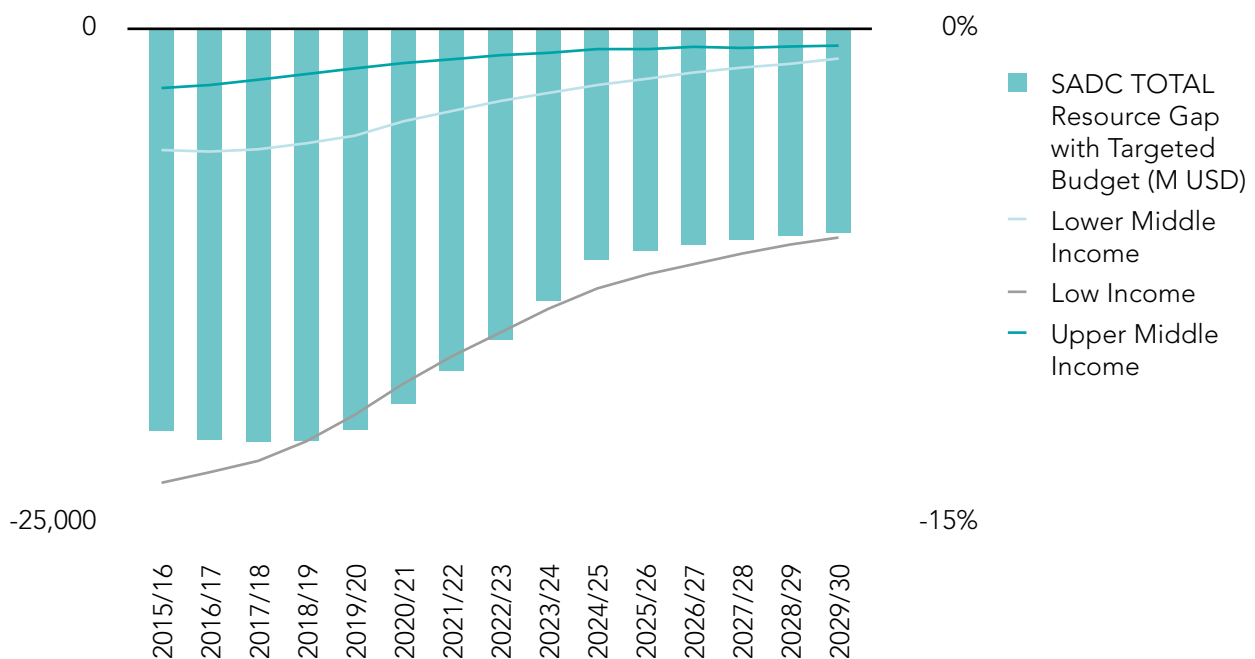
Their average gap in 2029/30 is only 0.5% of GDP. For lower middle income SADC countries the policy to raise the health and HIV/AIDS budgets will reduce the gap to 1% of GDP. And the gap is not being addressed immediately by this policy, as in the near term it remains at 3% of GDP. For low income countries the policy halves the resource gap from 15% to 7% over the fifteen years. However, this gap of 7% of GDP remains a significant burden and there simply is not enough money in national budgets to meet the combined UHC and HIV/AIDS resource needs. However,

even within country income groups there is important variation: Zimbabwe is a low income country but should be able to raise enough domestic resources to cover all its UHC and HIVAIDS needs in 2029/30. Zambia is the only lower middle income

country with the potential to covers its UHC and HIVAIDS needs by 2029/30. It is only Angola and South Africa in the upper middle group that may be able to cover their UHC inclusive of HIVAIDS needs by 2029/30.

# F.5

## SADC COMBINED RESOURCE GAP WITH TARGETED (REPRIORITISED) BUDGETS (M USD) AND BY INCOME STATUS (AS PROPORTION OF GDP)

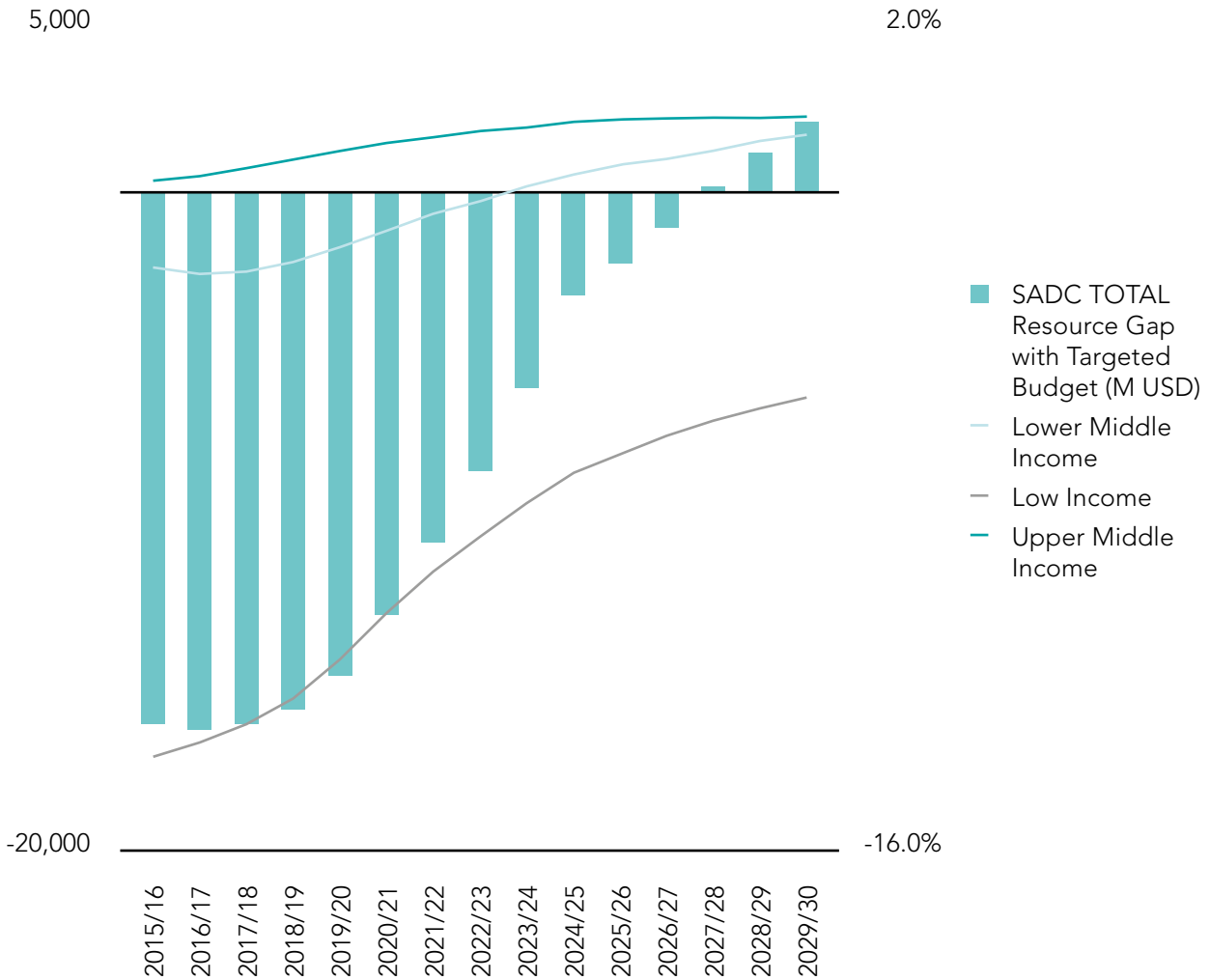


**32. Earmarked taxes, which expand existing tax regimes on specific sectors, such as alcohol, tobacco, airline and mobile phone industry, or increases in headline personal, corporate and indirect taxes, have the potential to bring 7 billion USD a year to the region in the short turn.** The policy option to reprioritise funding shows that over time many countries can be expected to self-fund through general taxation measures as growth and tax reform continues. However, in the short term the

current tax systems cannot sustain the needs of the sector for the simple reason that tax reforms, leading to increased revenue collection and increased public expenditure, take time. This is the equivalent of an additional 0.5% of GDP for each country to go towards UHC inclusive of HIV, and so reduces SADC country's resource gap by this amount. As the HIV Response relies on front-loading expenditures, to increase effectiveness and efficiency, this option is particularly attractive.

# F.6

## SADC COMBINED RESOURCE GAP WITH TARGETED BUDGETS AND EARMARKED TAXES (M USD) AND BY INCOME STATUS (AS PROPORTION OF GDP)



### 33.A potential 13 billion USD a year is projected to be captured by efficiency savings in health and HIV<sup>4</sup>.

Simply defined, inefficiency refers to a failure to obtain maximum outputs for a given level of investment. What is important for efficiency is not simply the cutting of costs but increasing the

impact of spending and improving the efficiency with which funds are spent. The emphasis, therefore, is fundamentally on value for money, i.e. containing or reducing costs without reducing outcomes or, better yet, achieving better outcomes for the same level of investment.

<sup>4</sup> The methodology used to estimate the magnitude of potential savings from imposing efficiency measures is based on international comparative performance via a Data Envelope Analysis (DEA) (Wu Zeng, 2014, for both health and HIV separately)



# F.7

## SADC COMBINED RESOURCE GAP WITH TARGETED BUDGETS, EARMARKED TAXES, AND EFFICIENCY SAVINGS (M USD) AND BY INCOME STATUS (AS PROPORTION OF GDP)



## Summary policy implications

**36. From a purely fiscal perspective, the current funding strategies will not achieve the related policy goals of UHC and Ending AIDS in 2030, but additional fiscal policy initiatives can be taken to decrease the funding gap.** Despite high level political commitment to UHC and Ending AIDS in 2030, the current financing strategies for both health and HIV will not attain these objectives. However, a combination of reprioritisation of public spending towards health and HIV,

earmarking revenue from innovative taxes, and increasing the efficiency of health and HIV service delivery, will allow the region to generate enough resources.

**37. Some SADC countries are not able to mobilise enough fiscal space over the coming 15 years for UHC and Ending AIDS in 2030, and most countries face a funding gap for HIV specifically over the next five years, jeopardising an effective and efficient delivery of the**

**HIV response assuming frontloading of expenditure.** While the region as a whole can generate enough fiscal space for UHC and Ending AIDS by 2030, some Member States won't be able to do so from within their economy. Most SADC Member States also face a funding gap for HIV in the short term. This sits at odds with the logic underpinning the Ending AIDS 2030 strategy, which is based on frontloading expenditure, to increase effectiveness and keep overall costs down. HIV and AIDS being the leading cause of mortality in the region begs the question whether particular attention should be given to plugging the HIV funding gap in the short term.

**38. There's a strong case for borrowing for HIV. As economic growth is expected to remain strong over the coming 10 years, the HIV funding challenge (which is independent of economic growth, but characterised by frontloading for maximum efficiency and effectiveness) is one of imbalanced distribution of fiscal space over time.** A boost of expenditure on HIV is required in the period 2015-2020, whereas fiscal space from economic growth starts to pull through only from 2020. This makes a strong case for borrowing.

**39. Some SADC countries face no resource gaps at all.** This simply means that, on the whole, enough financial resources are available in the system to achieve UHC and Ending AIDS 2030, it does not imply, however, that UHC and Ending AIDS in 2030 will be achieved. This depends on other factors not assessed in this study, such as distribution of public expenditure across population groups and health and HIV services, which are often skewed against poorer population groups, and in favor of services that are not cost-effective.

**40. There is a high variation across Member States in terms of economic development, epidemiological profiles, priority given to health and HIV in public financing and the resulting health and HIV funding gaps.** Even as some patterns emerge as economic development increases, paths to UHC and Ending AIDS 2030 are highly context specific.

**41. However, even if between-country variation is high, the path to UHC and Ending AIDS 2030 has some generic building blocks. The SADC can build on those and take a number of initiatives that will help individual Member States to develop national strategies within a regional approach that aims to increase convergence of health systems and outcomes over time:**

**1. Defining a package of cost-effective services**

In an ideal world enough financial resources are available to meet the funding challenges set by the UHC and Ending AIDS 2030 policy objectives. However, it is most likely, certainly in the short term that fiscal space will be constrained. This implies that choices about which health and HIV services to fund will have to be made. The SADC Secretariat can support Member States with an exercise to determine benefit package starting from the leading causes of mortality and morbidity in the country, and those health and HIV interventions that are cost-effectiveness. This would allow SADC Member State to reassess their current benefit packages, and focus limited resources on those services that have most impact on population outcomes.



## **2. Costing a package of cost-effective services**

To facilitate discussions around allocations of public spending to health and HIV between the Ministry of Finance, the Ministry of Health and the HIV coordinating institutions, it is necessary to have a precise idea of the cost of health and HIV programmes, at different levels of benefit package, and over time. To do this the SADC Secretariat can support Member States with costing out the benefit package, offering a generic approach. Having a precise idea of the cost of achieving UHC and Ending AIDS in 2030 will be helpful in determining the level of public expenditure over time, striving to be adequate but taking into account fiscal constraints.

## **3. Developing a financing strategy for a package of cost-effective services with financial projection**

Universal Health Coverage as well as Ending AIDS in 2030 require a specific package of cost-effective services to be offered with financial protection to the entire population. This means that the share of household out-of-pocket expenditure in total health expenditure should not exceed the 20-25% benchmark. Major paths to achieve this is by increasing the level of subsidy of public health and HIV services, reducing fees for service and drugs, or by increasing population coverage of mandatory social insurance. The SADC can support Member States in assessing current financing strategies, and designing ways to adapt them with a view to decreasing the share of out-of-pocket expenditure in total health expenditure.

## **4. Delivering a package of cost-effective services with optimal efficiency**

To further support the dialogue around fiscal space for health and HIV, the SADC can support Member States with a SADC-wide technical efficiency study. This would entail that the SADC Secretariat develops a generic approach to assessing technical efficiency, actions to improve efficiency, and an estimate of efficiency savings, which is then applied in SADC of the Member States individually. This will provide Member States with a series of priority actions which, when implemented over the medium-term, can provide critical key performance indicators for the Ministry of Finance to release more funding for health and HIV.

## **5. SADC-wide debate on fiscal space for UHC and Ending AIDS in 2030**

The current levels of allocation of public spending to health and HIV vary significantly across the SADC. The SADC can support Member States by organising a debate that brings together the elements from the previous steps, starting from the policy objectives of UHC and Ending AIDS in 2030: basic benefit packages, cost of offering basic benefit packages with financial protection, and efficiency savings. A SADC-wide discussion would involve the Heads of State and representatives of the Ministries of Health, Finance and the HIV coordinating agencies. The aim would be to obtain a long-term funding commitment that will allow to achieve UHC and Ending AIDS within the available fiscal envelope. The detail of such an agreement would



comprise specific public spending benchmarks for each SADC Member State, with a view of convergence across the SADC, specific targets for

increased technical efficiency, as well as specific targets for out-of-pocket expenditure, to ensure financial projection.



# METHODOLOGICAL ANNEX AND REFERENCES



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October 2015

## Annex A Methodology

### A.1 Overview of the Macroeconomic Framework

#### A.1.1 Introduction

The macroeconomic approach adopts a numeric framework, known as a financial programming framework, which is designed to assist in the development of a consistent approach to the different aspects of economic policy. The key feature of the financial programming framework is that it is based on a comprehensive view of the national economy, comprising four inter-dependent sectors. The four sectors are:

- The Real Sector, which relates to productive activities of the economy.

- The Fiscal Sector, which captures government transactions.
- The External Sector, which includes all transactions between the country in question and other countries.
- The Monetary Sector, which includes the transactions of the banking system and of the central bank.

Whilst not a sector in its own right, attention is also given to the debt of the central government, as the stocks and flows of the government's debt are reflected in the fiscal, external and monetary sectors.

At the outset, it should be clearly understood that the macroeconomic

framework is not an economic model. It does not constitute a set of equations which attempt to model the behaviour and interaction between different sets of economic agents. In economic terminology, it is not based on a set of econometrically estimated behavioural and/or structural relationships which drive economic outcomes.

The macroeconomic framework is a tool for ensuring the consistency between different sets of assumptions about the future course of the economy. In other words, by starting with a set of assumptions about the economy (e.g. GDP growth), the framework assesses the impact of different policy options on the four sectors of the economy in a consistent manner.

### A.1.2 Key components

The starting point for the macroeconomic framework is the tables published on the country's macroeconomic performance by the IMF. These tables are produced in a standard format for all countries as part of the IMF's Article IV surveillance activities. The standard IMF documents include five tables that are replicated in the macroeconomic framework used for this analysis.

These are:

- Table 1: Selected Economic Indicators, containing summary data from the real, fiscal, monetary and external sectors.
- Tables 2 & 3: Fiscal Operations of Central government, describing the government budget and its financing.
- Table 4: Monetary Accounts, showing the paths of broad money, net foreign assets and net domestic assets.

- Table 5: Balance of Payments, including indicators on gross international reserves.

These tables are transposed into Excel and expanded further as necessary, to produce data for the four sectors of the economy described above. This is done through the following six work sheets:

- **Overview:** The Overview sheet includes projections for headline macroeconomic variables such as real GDP growth, GDP deflator and the exchange rate.
- **Real:** The Real sheet provides the projections of the real sector, including values for GDP and its components (including consumption and investment).
- **Fiscal:** The Fiscal sheet provides information on the annual budget for the government, including projections for domestic revenue, expenditure, grants and deficit financing.
- **Money:** The Money sheet provides projections for the monetary sector. It includes the path of key monetary aggregates, such as credit to the private sector.
- **External:** The External sheet provides forecasts for the Balance of Payments, including projections for imports, exports, and gross international reserves.
- **Debt:** Whilst the Debt sheet does not reflect a sector as such, it performs a simple function by taking the debt disbursements, combining these with the existing debt stock and forecast repayments, to project the debt variables into the future.

The different sheets are all linked to each other to ensure consistency, as discussed

further below. Additional worksheets are used to group together the key macroeconomic assumptions, to include the data on health resources and to present charts of macroeconomic indicators.

### A.1.3 Theoretical approach

The framework uses four macroeconomic accounting identities to ensure consistency between the different sectors of the economy. A macroeconomic accounting identity is a relationship between a set of economic variables that must hold true by definition. For example, GDP must be equal to the sum of its components (investment, consumption, imports and exports). Each sector has its own accounting identity.

The framework ensures consistency between the sectors in two ways. Firstly, the macroeconomic framework ensures that all of the accounting identities are met. It does this through the use of a “residual” item, which is set via a formula to ensure that the identity is always true. For example, if we have already determined GDP, investment, imports and exports, then there can only be one value for consumption that is consistent with the accounting identity for the real sector (i.e.  $\text{Consumption} = \text{GDP} - \text{Investment} - \text{Exports} + \text{Imports}$ ). In this case, consumption is known as the “residual”.

Secondly, the macroeconomic framework ensures that wherever a variable features in more than one sector, the projections for that variable are the same in both sectors. For example, Imports features in both the real sector (as a component of GDP) and the external sector (as a component of the Current Account). Thus, the macroeconomic framework will ensure that whatever values are used for Imports in the external sector are also used in the real sector.

### A.1.4 Macroeconomic accounting identities

This section will examine the accounting identities used in each sector and the residual that is used to balance them.

#### A.1.4.1 The real sector

##### **BASIC IDENTITY:**

$$\text{GDP} = \text{Consumption (Private + Public)} + \text{Investment (Private + Public)} + \text{Exports} - \text{Imports}$$

##### **RESIDUAL:**

*Private Consumption*

The primary assumption in this sector is that of growth in real GDP. This is used to extrapolate the current figure for GDP into the coming years. An assumption is also made about the future path of the GDP deflator in order to convert between real GDP and nominal GDP.

Having determined the value of GDP in future years, it is necessary to determine its composition. Public consumption (i.e. government current expenditure) and public investment (i.e. government development expenditure) are determined by the Fiscal sheet (see below). By making assumptions about the share of investment in GDP, it is possible to produce forecast figures for investment. Finally, Imports and Exports are linked from the External sheet (see below).

Therefore, having determined the total value for GDP and all but one of its components, the residual component must be set to ensure consistency with the basic accounting identity. In this case, private consumption is used as the residual and is equal to GDP plus imports, less exports, private investment and total government spending.

#### A.1.4.2 The fiscal sector

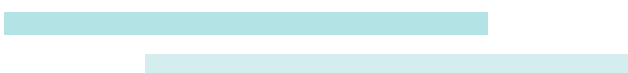


##### **BASIC IDENTITY:**

*Total Revenue – Total Expenditure = Net Borrowing*

##### **RESIDUAL:**

*Net Disbursements of Domestic Debt*



This sector is focused on the government budget. Firstly, tax revenue is determined (based on an assumption about its share of GDP) as well other sources of revenue, such as grants and non-tax revenue. External grants are converted to local currency using the exchange rate.

Assumptions are made about the government's expenditure (excluding debt service). The interest payments on debt are calculated in the Debt sheet, such that a higher deficit in one year is reflected in higher interest payments in the subsequent year. These factors determine the government's overall deficit and hence the government's borrowing requirement. Future disbursements and

principal repayments on external debt are determined by assumption and converted to local currency using the exchange rate.

All that remains is to determine the net disbursements on domestic debt. This is the residual in this sector and it set at a level to balance government borrowing with the overall deficit.

#### A.1.4.3 The monetary sector

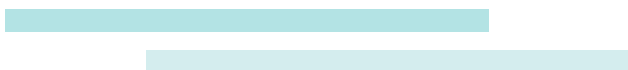


##### **BASIC IDENTITY:**

*Net Foreign Assets + Net Domestic Assets = Broad Money*

##### **RESIDUAL:**

*Net Claims on Other Sectors (a component of Net Domestic Assets)*



Net foreign assets are determined by the net flow of foreign currency into the country, which is given by the change in official reserves in the balance of payments (i.e. from the External sheet).

Net domestic assets includes net claims on government and net claims on other sectors (i.e. the private sector). Net claims on government is determined by the outstanding stock of government debt, which is taken directly from the Debt sheet. Net claims on other sectors is the residual in this sector and therefore calculated at the end.

Broad money can be derived from the economic relationship between nominal GDP, broad money and the velocity of money ( $PY=vM$ ). Broad money is therefore calculated by dividing nominal GDP by an assumed figure for the velocity of money.

Having determined everything else using the above assumptions, net claims on other sectors is the residual and is set to ensure compliance with the accounting identity for this sector. It is equal to broad money less net foreign assets and less net claims on government.

#### A.1.4.4 The external sector

##### **BASIC IDENTITY:**

*Current Account + Capital Account + Financial Account + Errors & Omissions = Change in Official Reserve Assets*

##### **RESIDUAL:**

*Change in Official Reserve Assets*

The external sector is essentially a representation of the balance of payments, which captures the flow of foreign currency into and out of the country in question. The current account is determined by assumptions about the import and export of goods and services, income and remittances. Also included in the current account are government interest payments on external debt (taken from the Debt sheet) and external budget support grants (taken from the Fiscal sheet).

The capital account includes external project grants (taken from the Fiscal sheet). The financial account requires assumptions about foreign direct investment and portfolio investment. The only other significant components of the financial account are the disbursements and repayments of external loans to government, which are taken from assumptions in the Fiscal sheet.

Errors and omissions are assumed to be zero in the future. The only item left is the change in official reserve assets, which is used as the residual to ensure consistency in this sheet. The change in official reserves is therefore given by the sum of the current account, the capital account and the financial account.

#### A.1.4.5 Key linkages between the sectors

As discussed above, the second source of consistency comes from the use of only one set of forecasts wherever a variable appears in two different sectors. Table A1 summarises the linkages between different sheets. It is important to note that the link is created from the sheet listed on the left hand side to the sheet listed along the top of the table (i.e. imports from the External sheet are transferred to the Real sheet.) To avoid confusion, only the most important linkages are shown, these correspond with the linkages discussed in the text above.

Using the above framework, it is possible to condense the forecasting of the economy, and its various sectors, to just a handful of key assumptions. Using these assumptions, the linkages and identities described above, and a few further details, it is possible to then project a range of macroeconomic variables and indicators into the future.

The framework therefore operates by retaining the IMF projections for the short

and medium term (until 2013) and then making a number of high level assumptions for key macroeconomic variables over the long term. These assumptions are based

upon an extrapolation of the medium term IMF projections and an analysis of the available information on the economy of the country in question.

## T.A.1 KEY INTER-SECTOR LINKAGES IN THE MACROECONOMIC FRAMEWORK

TO FROM	REAL	FISCAL	DEBT	MONEY	EXTERNAL
<b>Real</b>		GDP (for Revenue projections)		GDP (for Broad Money projections)	
<b>Fiscal</b>	Government Spending		Net Disbursements on Domestic Debt Disbursements on External Debt		External Grants Disbursements on External Debt
<b>Debt</b>		Interest Payments Principal Repayments on External Debt		Debt Stock (for Net Domestic Assets)	
<b>Money</b>					Interest on External Debt Principal Repayments on External Debt
<b>External</b>	Imports Exports		Exchange Rate	Change in Official Reserve Assets	

### A.1.5 Incorporating health and HIVAIDS resources

Health and HIVAIDS resources can be divided into two forms; revenues and expenditures. It is important to be clear on the distribution to avoid double-counting

the resources. For example, a grant from a donor would be included as a revenue but may also be counted as an expenditure by the government. Table A.2 shows the Health and HIVAIDS resources incorporated into the macroeconomic framework and the sectors that they are linked directly to.



# T.A.2 HEALTH AND HIVAIDS RESOURCE FLOWS IN THE MACROECONOMIC FRAMEWORK

RESOURCE FLOW	SECTOR LINKAGES
<b>Revenues</b>	
External project grants included in the budget	Fiscal, External
External project grants not included in the budget	None
External project loans	Fiscal, External, (Debt)
Tax and non-tax revenues collected by the government and earmarked for Health	Fiscal
Domestic borrowing by the government and earmarked for Health	Fiscal, (Debt)
<b>Expenditures</b>	
Government (Current) Expenditure	Fiscal
Expenditure by external project grants not included in the budget	None
Expenditure by private individuals and companies	Real

These resources are integrated into the appropriate sectors of the macroeconomic framework. This ensures consistency in both the macroeconomic projections and the Health and HIVAIDS expenditure projections in two ways.

*First*, those resources that are determined exogenously (either through external factors or by policy decisions) are linked to the macroeconomic framework so that changes in these variables have a macroeconomic impact. For example, higher grants from external donors may (i) increase government expenditure in the fiscal sector and (ii) increase the change in official reserves in the external sector (amongst other effects). Equally, a decision to increase taxes to finance Health will (i) increase the deficit and domestic borrowing and (ii) by higher interest payments on that debt, further increase the deficit in future years (again amongst other effects).

*Second*, Health and HIVAIDS resources can be linked to macroeconomic variables to model their size under different scenarios. For example, external grants and loans will be converted into local currency via the exchange rate and domestic resources can be linked to GDP growth to see how they change under different scenarios.

Using the framework above, it is then possible to insert different assumptions for key macroeconomic variables and different Health and HIVAIDS financing mechanisms to examine scenarios for Health and HIVAIDS expenditure into the future. These scenarios can be supported by various indicators to assess the plausibility of the scenario (e.g. is the share of Health expenditure of GDP excessive?) and its macroeconomic stability (e.g. is government debt sustainable? Is the balance of payments stable?).



## A.2 Data and Assumptions

### A.2.1 Time Series

The findings are presented in the Southern African Development Community (SADC) fiscal year running from April to May. Data and findings cover the period from 2008/09 to 2029/30, and the baseline for projections is 2012/13. The exception is that Resource Needs are available for HIV/AIDS for fifteen years from 2015 to 2030. Therefore the HIV/AIDS gap will be presented for those years.

### A.2.2 Macro Data

Underlying macroeconomic data is taken from the International Monetary Funds' (IMF) World Economic Outlook (WEO) database

(October 2013) and the most recent country-specific IMF Article IV publications. The past and near future estimations are agreed by country government so can be viewed as official country data. The medium term projections (from around 2014 – 2019) meanwhile are produced by IMF staff.

After 2019 the methodology for projecting longer term (up to 2030) are set out in Table A.3A.3. National Public Expenditures and Revenues are set to grow towards the average proportions for each income status; e.g. Tax to GDP ratio set depending on if the country is expected to become a low, middle or high income country. Averages by income status were found from the World Bank Development Indicators database. Other key variables such as Exchange Rates remain stable over the longer term.

## T.A.3 MACRO ECONOMIC TARGETS BY INCOME STATUS

	SECTOR LINKAGES	MIDDLE INCOME	HIGH INCOME
Tax: GDP	Fiscal, External	24%	34%
Current Expenditure: GDP	None	21%	29%
Donor Funds: GDP*	Fiscal, External, (Debt)	0.3%	0.0%

Source: World Bank Development Indicators

Note: \* = There are exceptions to this target. Where current ODA levels are less than the target proportion the ODA values are set to remain stable nominally over the longer term. Countries affected are: Malawi, and Swaziland.

The SADC Member States also have the underpinning assumptions based on the SADC convergence criteria. This provides underpinning key macro variables as follows:

- *Nominal Growth*: graduates to 8% by 2025;
- *Inflation*: graduates to 3% by 2025;



- › Gives Real Growth of 5%, (this is a more conservative assumption than the SADC Convergence Criteria of 7% annual Real GDP growth).

This provides us with a 'business as usual' scenario and allows us to compare the resultant key macro indicators from imposing health care scenarios.

It must be noted that within this baseline a key assumption is that external financing will decline in real terms over the projection period. This assumption affects the macroeconomic projections – as well as the sector-specific health and HIVAIDS funding scenarios – through budget and programme support as part of government revenue. Part A.4 of this

annex gives an overview of the reasoning for declining development assistance in the near future. In sum, sources suggest that in the medium term external funding will remain stable at best and decline in low income countries<sup>1</sup>.

For each country the current income status and projections of income growth are shown in Table

A.4. Over the fifteen year projection period there will be an upward transition in income for all countries. As mentioned for the macro assumptions these will be underpinned by the projected income per capita in 2030. The health and HIVAIDS projections will be set by the income status in 2025, the details of these will be discussed below.

## T.A.3 MACRO ECONOMIC TARGETS BY INCOME STATUS

	BASELINE INCOME STATUS		HIGH INCOME		MACRO INDICATOR TARGET PROJECTIONS	
	2014/15		2024/25		2029/30	
Angola	6,025	Mid	8,930	Mid	11,177	High
Botswana	7,987	Mid	16,237	High	23,692	High
Congo DRC	481	Low	951	Low	1,252	Mid
Lesotho	1,300	Mid	2,968	Mid	4,291	Mid
Madagascar	476	Low	778	Low	1,005	Mid
Malawi	248	Low	467	Low	609	Low
Mauritius	10,542	Mid	23,032	High	34,375	High
Mozambique	616	Low	1,471	Mid	1,981	Mid

<sup>1</sup> See: <http://www.oecd.org/newsroom/aid-to-developing-countries-rebounds-in-2013-to-reach-an-all-time-high.htm>, and <http://devpolicy.org/reports/PB7-Global-aid-in-2013.pdf>.

Namibia	5,575	Mid	10,144	Mid	13,746	High
Seychelles	14,600	High	26,333	High	37,333	High
South Africa	7,119	Mid	15,069	High	22,080	High
Swaziland	3,061	Mid	4,446	Mid	5,976	Mid
Tanzania	695	Low	1,194	Mid	1,537	Mid
Zambia	1,621	Mid	3,030	Mid	3,930	Mid
Zimbabwe	818	Low	1,716	Mid	2,369	Mid

Source: IMF and UN Baseline (GDP and Population, respectively) and OPM Projections

### A.2.3 Health Expenditure Data

The model includes details on funding which is available for Health from all sources. Background data (2008 – 2013) is taken from the World Health Organisation (WHO) Global Health Expenditure Database which provides access to country-specific National Health Accounts (NHA) data. The projections are then calculated using the following assumptions<sup>2</sup>:

*Government Health Spending:* Grows with nominal growth elasticity of 1.1 as per international econometric findings (see McIntyre and Meheus, 2014). This assumes that Government funding to the Health sector will rise at a slightly faster rate than nominal growth; i.e. as a country grows richer it invests proportionally more into its health services. A cap is set on this growth, which is set at government health expenditures reaching 20% of total government budget (GGHE:GGE) as per the top ten percentage of GGHE:GGE globally<sup>3</sup>.

*International Funding:* Medium term growth (2013 – 2015) rates were sourced from the Organisation for Economic Co-operation and Development (OECD) projections (OECD DAC CRS Online Database). Over the longer term the trend in donor funding for health is equal to the annual change in total ODA (as per the external funding to GDP target for the relevant income status of each country, see A.3). However, where this leads to a rise in external financings for Health a stable nominal level of external funding is imposed.

*Household Expenditure:* Grows with nominal growth elasticity of 0.86 as per international econometric findings (see McIntyre and Meheus, 2014). This assumes that the need for Out Of Pocket (OOP) expenditures by households will grow at a slightly slower rate than nominal growth; i.e. as a country grows richer the health burden falls less onto citizens for ad-hoc expenditures.

<sup>2</sup> This method of extracting NHA database information has the risk of underestimating public expenditures on health and overestimating private consumption. Therefore, where possible country-specific NHA reports are used to confirm expenditures, if one is not available budgetary data is used, or an alternative source such as a public expenditure review, etc.

<sup>3</sup> This 20% was found to be the highest spenders on health for low, medium, and high income countries, as per WHO Global Health Expenditures Database information. Countries affected are Lesotho and South Africa.



*Private Company Expenditures:* Grows in line with inflation to reflect rising cost of health services. This sector makes up a small proportion of health care financing sources.

Only in Zimbabwe is this method not possible as WHO / NHA data is available only up to 2006. Therefore Government Ministry of Finance Budget data was used for creating the trend in Government Health Expenditures, OECD DAC CRS used for Donor Disbursements and other sources for Household and Private Sector such as Health Systems Assessments and National Planning Strategies.

From these assumptions the model presumes a 'business as usual' scenario. The two key points are:

- i. that there are no great policy changes from central government in increasing health sector funding, and;
- ii. in most cases donor money is not flowing as rapidly into health as it has done over the past decade.

#### A.2.4 HIV/AIDS Data

The model provides a time series on available funding for HIV/AIDS from all sources. Background data is based on National AIDS Spending Assessment (NASA) publications by UNAIDS, or the Global AIDS Response Progress Report publications by UNGASS. The projections are then calculated using the following assumptions:

*Government HIV/AIDS Spending:* Remains stable as proportion of Discretionary Expenditure. This shows the how much choice the Government has in allocating its discretionary budget towards HIV/AIDS.

*International Funding:* Medium term growth (2013 – 2015) rates were sourced from the OECD. Over the longer term the trend in donor funding for HIV/AIDS is equal to the annual change in total ODA (as per the external funding to GDP target for the relevant income status of each country, see Table A.3). However, where this leads to a rise in external financings for HIV/AIDS a stable nominal level of external funding is imposed.

*Household Expenditure:* Grows in line with inflation in longer term reflecting the changes in cost of health care. NOTE: Household Expenditure here includes any Private Sector involvement but does not always include Out of Pocket (OOP) Expenditures – this is a function of the available data from NASA and UNGASS.

Note: In Angola and Zimbabwe there are no data available for private sector contributions to HIV/AIDS spending. Therefore the average private sector spend on HIV/AIDS was taken from all other SADC countries and used as an estimation. The average private sector spend on HIV/AIDS was found to be 0.08% of GDP.

From these assumptions the model presumes a 'business as usual' scenario. The two key points are:

- i. that there are no great policy changes from central government in increasing HIV/AIDS sector funding, and;
- i. in most cases donor money is not flowing as rapidly into HIV/AIDS as it has done over the past decade.

#### A.2.5 Linkages between Government Spending on Health and HIV/AIDS

As mentioned above in the 'business as usual' scenario government expenditure

on HIVAIDS is projected to rise in line with discretionary total government expenditure. Government expenditure on health is projected to rise by an elasticity of 1.1. This assumes no policy changes for health and HIVAIDS over the projection period. As such there is assumed to be no internal reallocation from or to HIVAIDS within the health budget.

The second scenario is the 'targeted budget' scenario, this is where a government decides to take policy action to raise domestic financing for Health and HIVAIDS. Here HIVAIDS spending will be determined by two policy actions:

First, each country takes action to alleviate the financing gap by raising Government Expenditure on Health. The target is set by taking the proportion of government expenditure on health spent by the top 25% of SADC countries of each income status. This is shown in A.5, and will be met 2024/25 and maintained up to 2029/30. From this increased health spending HIVAIDS will be allocated a greater nominal value.

In parallel the government would raise the share of health expenditure to HIVAIDS. The Domestic Investment Priority Index (DIPI) is a measure of how willing and able a government is to spend national budget on HIVAIDS. The Resch DIPI measure for comparable investment in HIVAIDS is calculated by taking Government expenditure on HIVAIDS divided by *Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs* (where *DALY* is the Disability-

Adjusted Life Year). Resch has set what is known as a 'fair share' of health budget allocated to HIVAIDS as 0.5. This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs. Each SADC country has this as a target to meet by 2024/25, and will maintain this up to 2029/30.

If a country is above the income-specific health budget allocation and/or the Resch share they will continue as per their baseline projection; i.e. they will not be reduced.

It must be noted that the information underpinning DIPI calculations has some limitations. The AIDS DALYs and TOTAL DALYs are constant as at 2012 WHO estimates<sup>4</sup>. More recent official estimations or projections are not available. HIVAIDS infection rates can be affected by multiple factors and may be unlikely to remain constant over the next fifteen years. It would be expected that a greater investment in HIVAIDS would reduce the prevalence and number of DALYs due to HIVAIDS, with a time lag. Under this situation the projections up to 2019/20 can be seen as a realistic projection for HIVAIDS. Further into the longer term up to 2029/30 there will be some lost validity. In this light the longer term projections are actually a cautious estimate of the ability of SADC countries to cover the HIVAIDS needs as the analysis presents a stable prevalence rate which would be more likely decline over time.

<sup>4</sup> [http://www.who.int/healthinfo/global\\_burden\\_disease/en/](http://www.who.int/healthinfo/global_burden_disease/en/).



# T.A.5 GOVERNMENT HEALTH EXPENDITURE AS % OF TOTAL GOVERNMENT BUDGET BY INCOME STATUS

## BASELINE AVERAGE 2008/09 - 2012/13

Low Income Top 25%	8%
Congo DRC	7%
Malawi	5%
Madagascar	8%
Mozambique	2%
Tanzania	3%
Zimbabwe	7%
Middle Income Top 25%	12%
Angola	6%
Botswana	7%
Lesotho	9%
Mauritius	9%
Namibia	11%
Seychelles	8%
South Africa	13%
Swaziland	12%
Zambia	7%

Source: OPM Model

### A.2.6 Combining Health and HIVAIDS Expenditures

To combine Health and HIVAIDS we need to avoid duplication of expenditures. Both government and external health expenditures will include some amount of HIVAIDS-specific spending, and some HIVAIDS expenditures will include non-health expenditures. These need to be teased out as follows:

### **Government HIVAIDS Expenditures in Health Expenditure**

– The historic data on Government Health Expenditure (GHE) and Government AIDS Expenditures (GAE) can give us an idea of what proportion of health expenditure is spent on HIVAIDS in each SADC country. The results is shown in Table A.6 where the average is seen as 17%. Low spending on HIVAIDS compared to Health is seen in Angola, Congo DRC and Mauritius all allocate only 1% of government health

spending to HIVAIDS. Botswana, Lesotho, Namibia and Tanzania all have high levels of HIVAIDS expenditures accounting for more than a third and up to half of government health spending.

**Donor HIVAIDS Expenditures in Health Expenditure** - Using OECD DAC database we can gain an estimation of the level of external funding going to health which is used for HIVAIDS purposes. Data over a five year period was assessed and the averages for 2008/09 to 2012/13 are shown in Table A.6. The regional average of HIVAIDS expenditures within health external funding is found to be 56%. There is a wide divergence; from 4% of Seychelles external health funding specified for HIVAIDS, to 94% of external health funding going to HIVAIDS in Botswana. Each countries estimated proportion will be projected over time using these results.

**Government and Donor Non-Health Expenditures in HIVAIDS Expenditure** – Past UNAIDS GARPR data gives us an idea

of the line items related to health and non-health activities for HIVAIDS. The results for both government and donor expenditures are shown in Table A.7 and will be used for the projections. These are underpinned by the analysis described in the next section and Table A.8.

Each SADC member state will have its own country proportions applied. But to provide a picture for the average regional impact the combined health and HIVAIDS expenditures will be calculated as follows:

- Government spending on health reduced by 17% to remove HIVAIDS expenditures;
- Donor funding for health reduced by 56% to remove HIVAIDS financing;
- Government spending on HIVAIDS reduced by 14% to remove non-health expenditure; and
- Donor funding on HIVAIDS reduced by 13% to remove non-health monies.

## T.A.6 PROPORTION OF HIVAIDS EXPENDITURES COMPARED TO HEALTH EXPENDITURE (5 YEAR AVERAGE 2008/09 - 2012/13)

	GOVERNMENT: GAE WITHIN GHE	DONORS: HIVAIDS ODA WITHIN HEALTH ODA
Angola	1%	25%
Botswana	47%	94%
Congo DRC	1%	15%
Lesotho	44%	64%
Madagascar	3%	8%
Malawi	4%	48%
Mauritius	1%	76%
Mozambique	8%	51%



Namibia	39%	91%
Seychelles	5%	4%
South Africa	10%	91%
Swaziland	18%	85%
Tanzania	48%	50%
Zambia	7%	67%
Zimbabwe	19%	48%
<b>SADC AVERAGE</b>	<b>17%</b>	<b>56%</b>

Note: Calculated from NHA and NASA for Government Expenditure, and OECD DAC CRS for Donors.

## T.A.7 PROPORTION OF HIVAIDS EXPENDITURES RELATED TO HEALTH

	HEALTH RELATED HIVAIDS EXPENDITURES BY GOVERNMENT	HEALTH RELATED HIVAIDS EXPENDITURES BY DONORS
Angola	94%	49%
Botswana	78%	92%
Congo DRC	99%	81%
Lesotho	91%	71%
Madagascar	76%	82%
Malawi	86%	85%
Mauritius	89%	75%
Mozambique	99%	87%
Namibia	70%	88%
Seychelles	49%	86%
South Africa	87%	85%
Swaziland	99%	91%
Tanzania	99%	92%
Zambia	97%	95%
Zimbabwe	97%	86%
<b>SADC TOTAL</b>	<b>86%</b>	<b>87%</b>

Note: Based on UNAIDS GARPR data.



## A.2.7 Resource Needs

These describe the estimated level of funding required to provide the basic level of Health or HIV/AIDS services a country needs.

**Health Needs** are set for each country to reflect the maximum of three spending options as per current international health financing norms (see McIntyre and Meheus, 2014). This would raise the country to the global average for health spending and are as follows:

- 86 USD per capita;
- 5% of GDP; or
- Current Government and Donor Health Spending.

**HIVAIDS** Needs were provided by UNAIDS and sourced from the Global AIDS Response Progress Reporting tool (GARPR).

**Combined Health and HIVAIDS Resource Needs** require some calculations to the aforementioned Health Resource Needs and HIVAIDS Resource Needs. To create a scenario where HIVAIDS needs are combined with health needs we need to consider how much of the UHC package is HIVAIDS-related, and how much of the HIVAIDS needs are health and non-health related.

1. For UHC Resource Needs a recent analysis on this topic found that: *“The CMH, WHO norm and MBB each allocated between 12% and 18% of the total cost of UHC to HIV/AIDS response interventions. UNAIDS estimated fiscal*

*need for HIV/AIDS interventions is between 14% and 15% of estimated government plus donor expenditure on health between 2015 and 2019”*<sup>5</sup> (Alex CJ OPM 2015, page 34).

2. For HIVAIDS Resource Needs – Estimation of the line items associated with health spending and those not directly health related were made. The resultant estimate of Health and Non- Health related UNAIDS HIVAIDS Resource Needs are set out in Table A.8. Past expenditures in these needs categories suggest that in the SADC region 86% were identified as directly health related, the remaining 14% not. Country specific results have been used as shown in Figure A.1.

Therefore, this study will use these finding as follows:

- Take 15% off of **Health Resource Needs** to give **‘Non-HIVAIDS Health Resource Needs’**.
- Remove 14% of the Non-Health related HIVAIDS needs to give **‘Health-Only HIVAIDS Resource Needs’**, (using the UNAIDS HIVAIDS Resource Needs as these are based on country-specific unit costs and can range from 51% in the Seychelles and 4% in Tanzania).
- Add the **Non-HIVAIDS Health Resource Needs** and the **Health-Only HIVAIDS Resource Needs**
- › A Health and HIVAIDS Resource Needs with no duplications and no non-health costs.

<sup>5</sup> Where CMH = Commission on Macroeconomics and Health, MBB = Marginal-Budgeting for Bottlenecks (approached used by the High Level Task Force on Innovative International Financing for Health Systems), and WHO = World Health Organisation.

# T.A.8 DISAGGREGATION OF UNAIDS RESOURCE NEEDS CATEGORIES AS HEALTH OR NON- HEALTH

## 1. PREVENTION (SUB-TOTAL)

Non	1.01 Communication for social and behavioural change (BCC)
Non	1.02 Community/social mobilization
	1.03 Voluntary counseling and testing (VCT)
Non	1.04 Risk-reduction and prevention activities for vulnerable and accessible populations
Non	1.05. Prevention - Youth in school
Non	1.06 Prevention - Youth out-of-school
	1.07 Prevention of HIV transmission aimed at people living with HIV
	1.08 Prevention programmes for sex workers and their clients
	1.09 Programmes for men who have sex with men
	1.10 Harm-reduction programmes for injecting drug users
Non	1.11 Prevention programmes in the workplace
Non	1.12 Condom social marketing
	1.13 Public and commercial sector male condom provision
	1.14 Public and commercial sector female condom provision
	1.15 Microbicides
	1.16 Prevention, diagnosis and treatment of sexually transmitted infections (STI)
	1.17 Prevention of mother-to-child transmission
	1.18 Male Circumcision
	1.19 Blood safety
	1.20 Safe medical injections
	1.21 Universal precautions
	1.22 Post- & Pre-exposure prophylaxis
	1.98 Prevention activities not disaggregated by intervention
	1.99 Prevention activities not elsewhere classified

## 2. CARE AND TREATMENT (SUB-TOTAL)

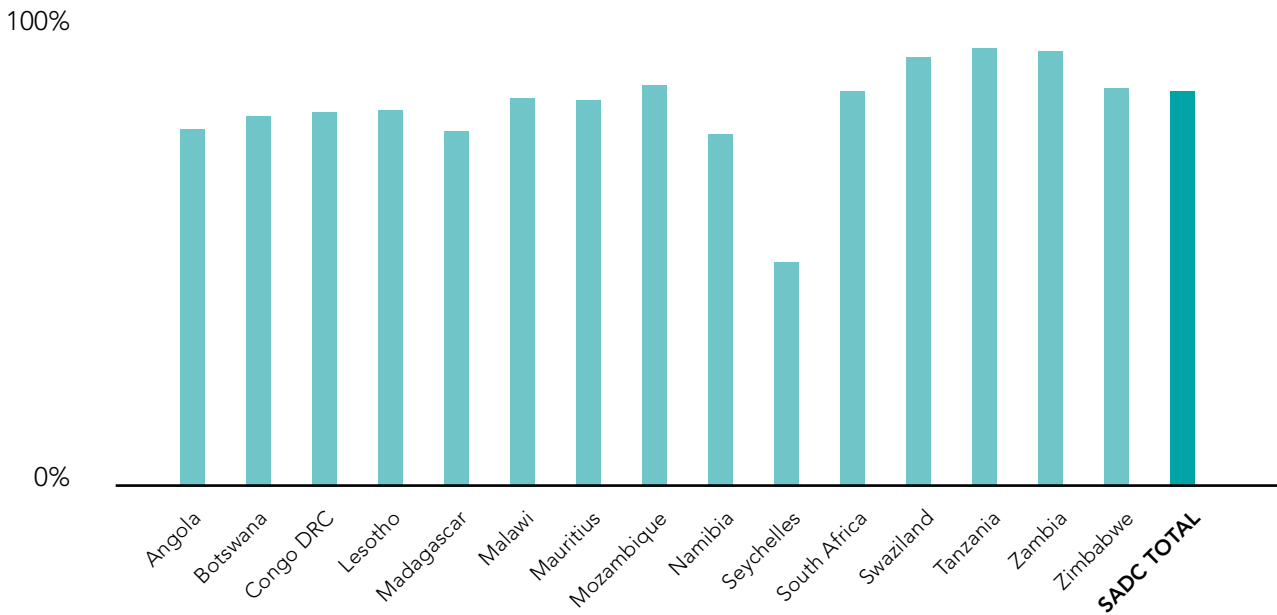
	2.01 Outpatient care
	2.01.01 Provider- initiated testing and counseling
	2.01.02 Opportunistic infection (OI) outpatient prophylaxis and treatment
	2.01.03 Antiretroviral therapy
	2.01.04 Nutritional support associated to ARV therapy

	2.01.05 Specific HIV-related laboratory monitoring
	2.01.06 Dental programmes for PLHIV
	2.01.07 Psychological treatment and support services
	2.01.08 Outpatient palliative care
	2.01.09 Home-based care
	2.01.10 Traditional medicine and informal care and treatment services
	2.01.98 Outpatient care services not disaggregated by intervention
	2.01.99 Outpatient Care services not elsewhere classified
	2.02 In-patient care
	2.02.01 Inpatient treatment of opportunistic infections (OI)
	2.02.02 Inpatient palliative care
	2.02.98 Inpatient care services not disaggregated by intervention
	2.02.99 In-patient services not elsewhere classified
	2.03 Patient transport and emergency rescue
	2.98 Care and treatment services not disaggregated by intervention
	2.99 Care and treatment services not-elsewhere classified
	<b>3. ORPHANS AND VULNERABLE CHILDREN (SUB-TOTAL)</b>
Non	3.01 OVC Education
	3.02 OVC Basic health care
Non	3.03 OVC Family/home support
Non	3.04 OVC Community support
Non	3.05 OVC Social services and Administrative costs
Non	3.06 OVC Institutional Care
Non	3.98 OVC services not disaggregated by intervention
Non	3.99 OVC services not-elsewhere classified
	<b>4. SYSTEMS STRENGTHENING &amp; PROGRAMME COORDINATION (SUB-TOTAL)</b>
	4.01 National planning, coordination and programme management
	4.02 Administration and transaction costs associated with managing and disbursing funds
	4.03 Monitoring and evaluation
	4.04 Operations research
	4.05 Serological-surveillance (Serosurveillance)
	4.06 HIV drug-resistance surveillance
	4.07 Drug supply systems
	4.08 Information technology
	4.09 Patient tracking



	4.10 Upgrading and construction of infrastructure
	4.11 Mandatory HIV testing (not VCT)
	4.98 Program Management and Administration Strengthening not disaggregated by type
	4.99 Program Management and Administration Strengthening not-elsewhere classified
	<b>5. INCENTIVES FOR HUMAN RESOURCES (SUB-TOTAL)</b>
	5.01 Monetary incentives for human resources
	5.02 Formative education to build-up an HIV workforce
	5.03 Training
	5.98 Incentives for Human Resources not specified by kind
	5.99 Incentives for Human Resources not elsewhere classified
<b>NON</b>	<b>6. SOCIAL PROTECTION AND SOCIAL SERVICES EXCLUDING ORPHANS AND VULNERABLE CHILDREN (SUB-TOTAL)</b>
	6.01 Social protection through monetary benefits
	6.02 Social protection through in-kind benefits
	6.03 Social protection through provision of social services
	6.04 HIV-specific income generation projects
	6.98 Social protection services and social services not disaggregated by type
	6.99 Social protection services and social services not elsewhere classified
<b>NON</b>	<b>7. ENABLING ENVIRONMENT (SUB-TOTAL)</b>
	7.01 Advocacy
	7.02 Human rights programmes
	7.03 AIDS-specific institutional development
	7.04 AIDS-specific programmes focused on women
	7.05 Programmes to reduce Gender Based Violence
	7.98 Enabling Environment and Community Development not disaggregated by type
	7.99 Enabling Environment and Community Development not elsewhere classified
	8. Research (sub-total)
	8.01 Biomedical research
	8.02 Clinical research
	8.03 Epidemiological research
<b>Non</b>	<b>8.04 Social science research</b>
	8.05 Vaccine-related research
	8.98 Research not disaggregated by type
	8.99 Research not elsewhere classified

Note: Non = Non-Health related HIV/AIDS resource need and could be on other Ministry budgets rather than MoH. Remaining line items are viewed as directly health related and assumed to be within the MoH budget.



Note: Based on UNAIDS GARPR Spending Categories, actual expenditures.

### A.2.8 Financing Gap

From the macro, health, and resource needs data a financing gap is found; i.e. how much money is available in a country for Health and HIVAIDS compared to how much money is needed to provide basic needs for Health and HIVAIDS. There are two scenarios built around this:

**Scenario 1: Business as Usual** – Compares Health, HIVAIDS and the combined UHC and HIVAIDS needs against their spending from Government and Official Development Assistance.

› **Scenario 1** presents the situation assuming needs continue as expected, there are no policy changes in spending, and donors do begin to reduce their income flows and so there will be a

shortfall of financing for Health and HIVAIDS (in most countries).

**Scenario 2: Innovative Action** – As per scenario 1 but with a stronger budget commitment to Health and HIVAIDS; i.e. Government Expenditures on Health rising to targeted values (as mentioned above) and HIVAIDS Resch share rises to 0.5, both by 2025. Additionally there is the inclusion of new alternative source of funding – earmarked taxes – and efficiency savings. Borrowing is discussed if all other domestic funding sources are exhausted and a financing gap remains.

› **Scenario 2** present a possible future where governments are taking a proactive stance to meet the UHC and HIVAIDS needs of citizens to offset the decline from donor funding.

## A.2.9 Innovative Funding Sources

There are six different types of new alternative funding sources considered within the model as methods to fill the Financing Gap. These can be considered under two headings:

- Taxation - Tax on Remittances; Mobile Phone Levy; Alcohol Levy; and Airline Levy
- Mainstreaming – Public and Private Sector

Estimations of potential levels of income from the first six new domestic sources are calculated by using data found from other countries who have implemented these innovative sources. Their results have been summarised into an average return in terms of a percentage of GDP. These are summed and added to the available budget financing and a new financing gap is calculated. It must be noted that the sum of all these levies are included in the scenario and it is unlikely that all would be implemented, rather one or two may be chosen by a government. This would lessen the financial impact.

## A.2.10 Efficiency Gains and Savings

Countries have differing levels of efficiency. If they can become more efficient the country will need less money to provide the same levels of service. The potential for each country to improve its efficiency rates have been calculated by international Data Envelopment Analysis (DEA), (Wu Zeng). These are then accounted for in the Resource Needs; i.e. reducing the amount of Resource Needs. A new financing gap is then calculated which includes both

innovative funding and efficiency savings. This final financing gap presupposed the implementation of a number of policies from the national Governments regarding implementing a more efficient HIVAIDS system.

## A.2.11 Analysis Categories

Throughout this report the findings are discussed as one entire group of SADC countries, sub-groups and some country specific findings. The full individual analysis for each country is in the Annex report. The two main types of disaggregation / groupings of countries are defined as follows, and summarised in Table A.9:

**Income status** – Categories are defined by the World Bank definitions of per capita income<sup>6</sup>:

- Low income is below 1,045 USD;
- Lower-Middle income between 1,045 and 4,125 USD;
- Upper-Middle income between 4,125 and 12,746 USD; and
- High income is above 12,746 USD.

As this analysis is projecting over a fifteen year period some countries move upwards into a new income bracket, this is shown in Table A.4 above. For discussions of the findings we consider the baseline 2014/15 income status as our defining point for groupings.

**Domestic Investment Priority Index (DIPI)**

- The Resch DIPI measure (as described

<sup>6</sup> See: <http://data.worldbank.org/about/country-and-lending-groups>.

above) is used to categorise countries into groups of how HIV/AIDS is prioritised by government. The categorising was defined by using the average found from 2008/09 to 2012/13. The average for all SADC countries was found to be 1.1, (which is greatly buoyed by high estimate for Seychelles, without Seychelles the average would be 0.8).

- A low DIPI is set as the bottom 50% of all SADC countries, a Resch DIPI of less than 0.3;
- A medium DIPI is anything between 0.3 and 1.1 (the average); and
- A high DIPI is above the 1.1 SADC average.

## T.A.9 SADC COUNTRIES BY ANALYSIS CATEGORIES

	INCOME STATUS (2012/13)	DIPI (2012 - 2013)
Angola	Upper Middle	Low
Botswana	Upper Middle	High
Congo DRC	Low	Low
Lesotho	Lower Middle	High
Madagascar	Low	Medium
Malawi	Low	Low
Mauritius	Upper Middle	Medium
Mozambique	Low	Low
Namibia	Upper Middle	High
Seychelles	Upper Middle	High
South Africa	Upper Middle	Low
Swaziland	Lower Middle	Medium
Tanzania	Low	High
Zambia	Lower Middle	Low
Zimbabwe	Low	Low

Source: Various



### A.3 Regression Findings for Public Expenditure Growth and OOP

The methodological background to the public health spending and out-of-pocket multipliers to GDP are elasticities, obtained as follows.

#### The global pattern of total health spending

(which includes both public and private expenditure) is closely related to national GDP. Data from the World Health Organisations based on National Health Accounts (NHA) for the years 2001-11 shows that the global average of total health expenditure (THE) is 7.2% of GDP. Public health spending (general government expenditure on health only) averages 5.7% of GDP globally.

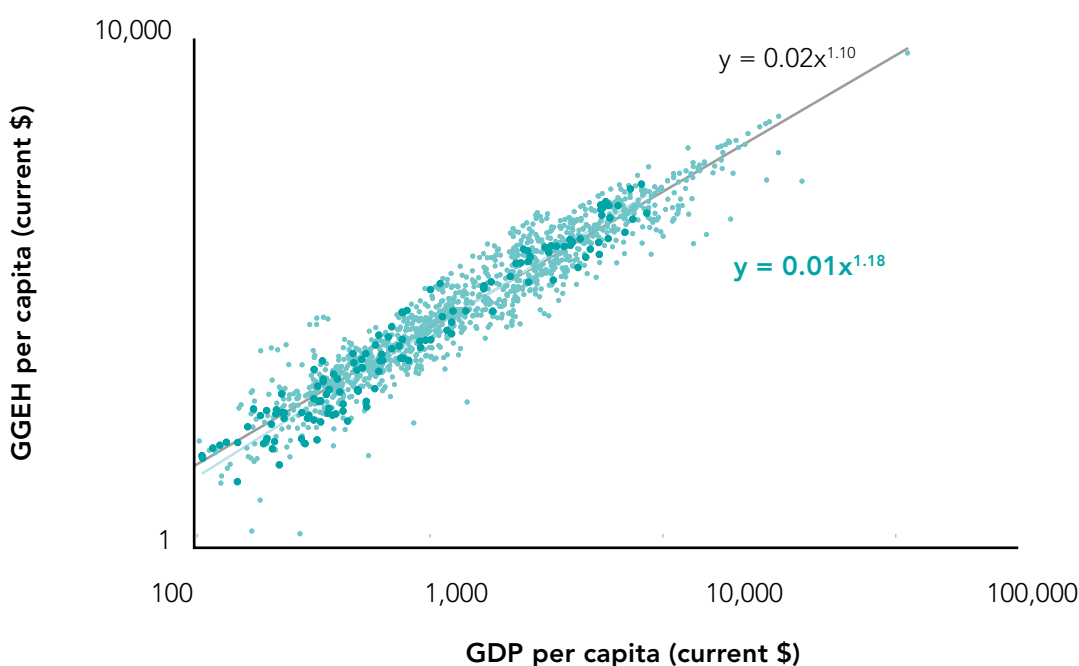
However, THE is not quite proportional to GDP. Figure A.2 shows a scatter-plot of total health expenditure (THE) vs GDP (both per-capita) by country for the years 2001-2011. As can be seen, THE is strongly correlated to GDP (the r-squared value is 0.94, although the log-log

plot conceals a large variance, particularly at high levels of GDP per capita). Globally, THE shows an elasticity of about 1.1 with respect to GDP, and about 1.2 in the SADC countries which do not show a significant difference from the global trend. This implies that GGEH generally rises about 10%-20% faster than GDP.

**Out of pocket spending** on health is somewhat more variable than total health expenditure (THE), but the National Health Accounts (NHA) estimates also show a global correlation with GDP, as shown in Figure A.3.

As can be seen, the global elasticity for OOP is about 0.86 – implying that OOP rises more slowly than GDP, and that OOP is a larger proportion of household income in poorer countries. Note however that the elasticity of OOP appears to be somewhat lower in SADC countries (shown in red), with a value of about 0.66. This implies that OOP is significantly lower as a proportion of household income in those countries with higher GDP per capita.

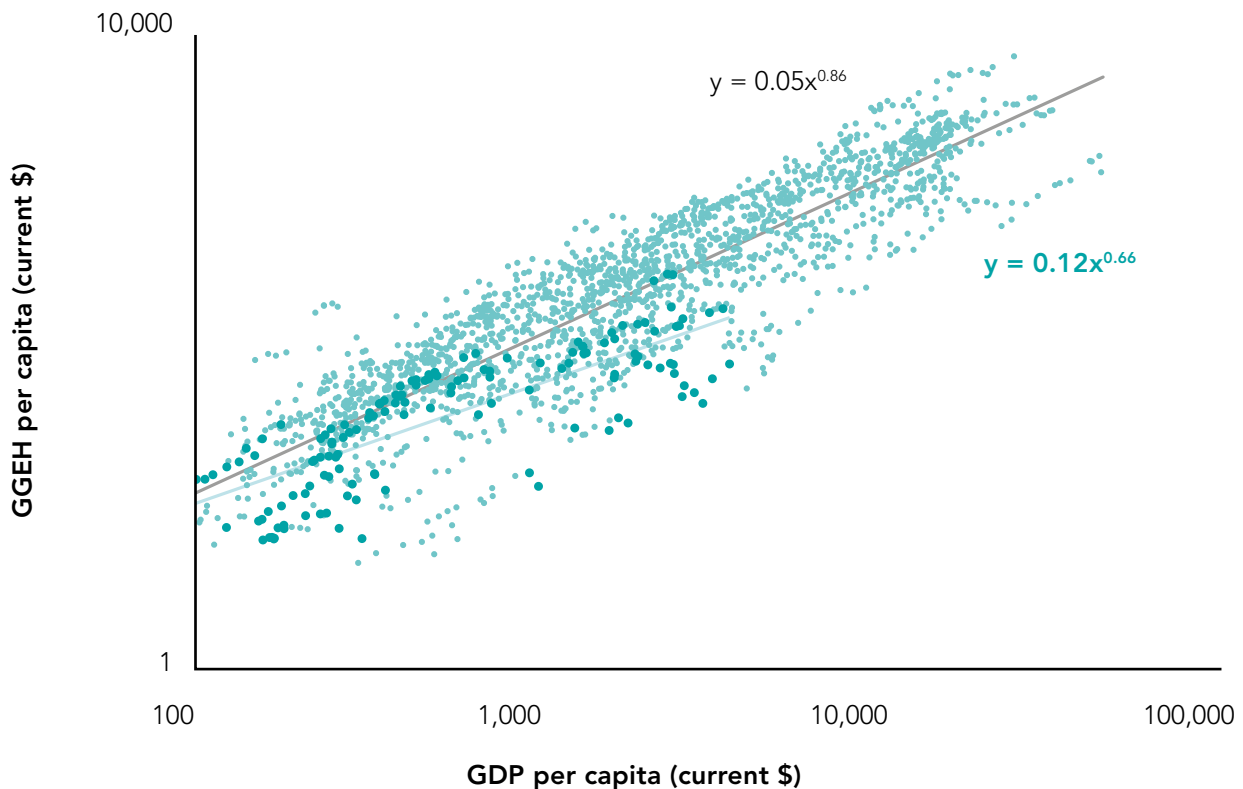
## F.A.2 GENERAL GOVERNMENT SPENDING ON HEALTH AND GDP





# FA.3

## OUT-OF-POCKET EXPENDITURE AND GDP



Source: Robert Greener, OPM

Note: Regressions used NHA data combined with IMF GDP estimates on a panel of data. The purpose of these graphs are really to position the SADC countries within a global context, not to come up with internationally valid SADC-specific elasticities.

### A.4 Approach to Projected Donor Funding

Within this analysis a key assumption is that external financing will decline in real terms over the projection period. This assumption affects the macro economy (through budgetary revenues and deficit), as well as the sector-specific health and HIVAIDS funding scenarios. This section gives an overview of past trends in Overseas Development Assistance (ODA), and the reasoning for declining development assistance in the near future.

Medium term growth rates (2014 – 2016) for international funding are sourced from the OECD. The OECD projections estimate that growth in international aid will be 9%

in 2013 and remain at zero percent for the three years from 2014 to 2016. This refers to all ODA from all donors to all countries.

OECD ODA projections are not available for HIVAIDS ODA in isolation. However, comparing historic disbursements of total ODA, health ODA, Sub-Saharan African ODA, and SSA Health ODA – see Figure A.4 – it is clear that the trends are not divergent. Therefore it has been assumed that medium term disbursements to health and HIVAIDS would not differ substantially from monies from donors to recipient countries for ODA in general. The total ODA annual growth rates were superimposed onto the baseline data for each SADC country.



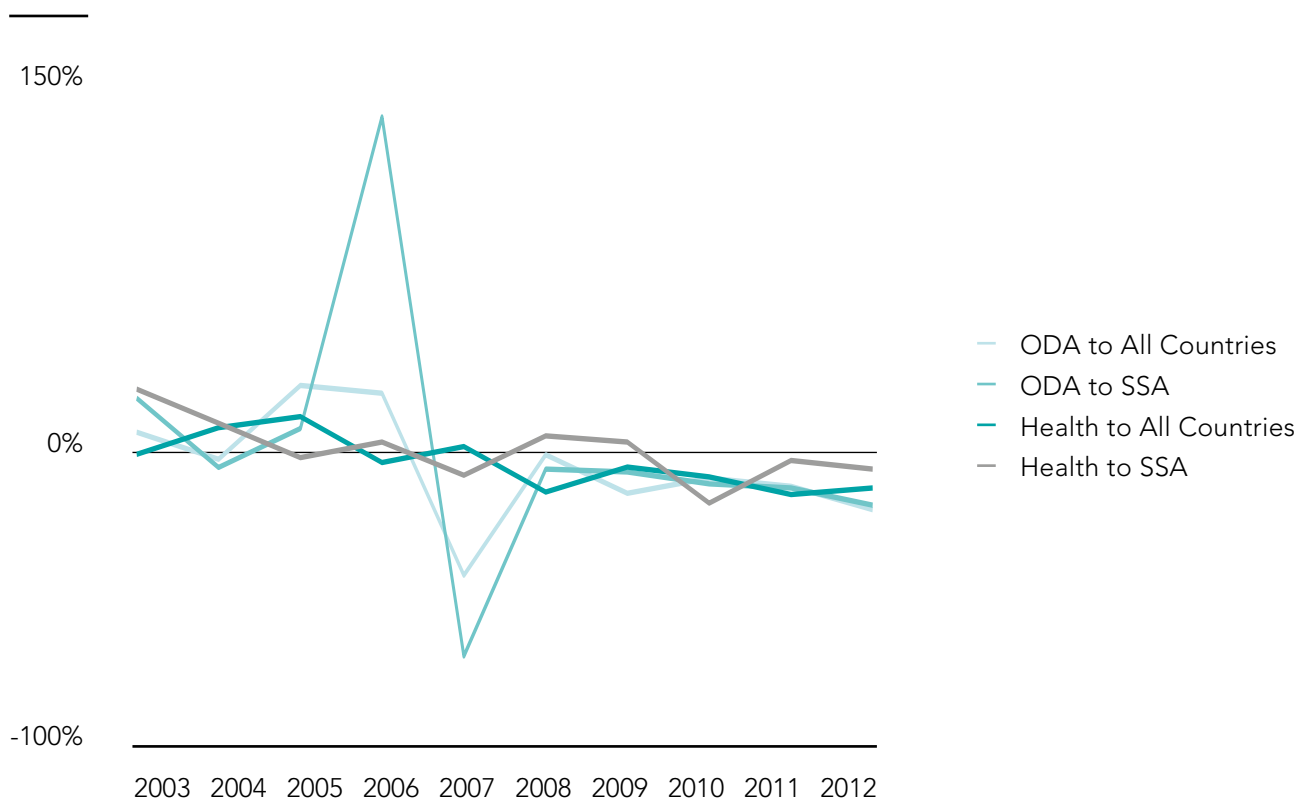
Over the longer term two sources suggest overall ODA will be flat (OECD and Development Policy Centre):

- The OECD suggests a rise to middle income and decline to low income (especially Africa) – a function of soft loan availability over grants. There may be a movement towards

Asia so Asian aid is equal to African<sup>7</sup>.

- The Development Policy Centre concludes that traditional sources of aid may decline, but that this could be offset by rising non-traditional sources, leading to the “overall level of external aid for developing countries remains flat for several years”<sup>8</sup>.

## F.A.3 COMPARISON OF ODA DISBURSEMENTS (ANNUAL CHANGE)



Source: Projections from: OECD Outlook on Aid (<http://www.oecd.org/dac/aid-architecture/OECD%20Outlook%20on%20Aid%202013.pdf>)

<sup>7</sup> <http://www.oecd.org/newsroom/aid-to-developing-countries-rebounds-in-2013-to-reach-an-all-time-high.htm>.

<sup>8</sup> Davies, R and la O', M. (2013).

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# ANNEX COUNTRY FINDINGS



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## Introduction

This annex provides an overview of assumptions taken, baseline situation, and projected results for each of the 15 SADC countries. Each country has a short section on macroeconomic indicators, proportions currently spent on health and HIVAIDS, the projected resource

gap for the integrated UHC and HIVAIDS, and potential future financing options.

An overview of the data used is provided. A full description of the methodology can be found in the Methodological Annex.

## Abbreviations

<b>DALY</b>	Disability-Adjusted Life Year
<b>DEA</b>	Data Envelope Analysis
<b>DIPI</b>	Domestic Investment Priority Index
<b>GAE</b>	Government AIDS Expenditure
<b>GARPR</b>	Global AIDS Response Progress Reporting
<b>GDP</b>	Gross Domestic Product
<b>GGE</b>	General Government Expenditure
<b>GHE</b>	Government Health Expenditure

<b>HIVAIDS</b>	Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome
<b>IMF</b>	International Monetary Fund
<b>NASA</b>	National AIDS Spending Assessment
<b>NHA</b>	National Health Accounts
<b>ODA</b>	Overseas Development Assistance
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>OOP</b>	Out of Pocket
<b>OPM</b>	Oxford Policy Management
<b>SADC</b>	Southern African Development Community
<b>SSA</b>	Sub-Saharan Africa
<b>THE</b>	Total Health Expenditures
<b>UNAIDS</b>	Joint United Nations Programme on HIVAIDS
<b>USD</b>	United States Dollars
<b>WEO</b>	World Economic Outlook
<b>WHO</b>	World Health Organisation

# 1 Angola

## 1.1 Macro Indicators and Convergence Criteria

Table 1 shows a sub-set of key macroeconomic indicators for Angola resulting from the financing gap model. These show that Angola will have a challenge to keep a lid on inflationary pressures to ensure that they meet the SADC real growth criteria. On average over the longer term inflation could fall to just above the 3% target. The Governments' Fiscal Deficit is within acceptable boundaries and Public Debt is

low and well below the SADC criteria. The IMF's latest Debt Sustainability Analysis states that Angola is in a sustainable debt position<sup>1</sup>.

GDPpercapita is expected to grow from around 6,000 USD in 2014/15 to more than 11,000 in 2029/30. This is a movement up from middle income to almost high income status over the time period – as such all macroeconomic indicators have been targeted to meet high income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

<sup>1</sup> IMF Country Report No. 12/215 (Aug 2012) 'Angola 2012 Article IV Consultation and Post Program Monitoring'.



	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	5.8%	3.0%	-
Nominal GDP Growth	-	-	16.6%	8.3%	-
GDP per capita (USD)	-	-	5,425	8,320	-
Inflation (Annual Change)	5%	3%	10.8%	5.3%	-
Fiscal Deficit (+/- 1%)	3%	3%	2.4%	-4.2%	-
<i>Tax Burden**</i>	-	-	39.2%	36.8%	37.2%
Public Debt (% GDP)	60%	60%	31.6%	36.0%	36.1%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

## 1.2 Current Situation in Health and HIVAIDS

Using the World Health Organisation (WHO) data for 2008/09 – 2011/12 the health sector in Angola is financed in the main by the Government; 60% of Total Health Expenditure (THE), and only 3% being provided by international funding. Households Out of Pocket Expenditures account for 26% of health expenditure and the remaining 10% is sourced from private companies. From the National Budget allocation to health sits at around 6%, as a percentage of GDP THE is just less than 4%.

For HIVAIDS the UNGASS 2010 and 2012 reports suggests that 40% of funding comes from donors. The Government provides 60% of all funding for HIVAIDS but levels of expenditure are low at less than 0.2% of the National Budget, or 0.1% of GDP. A proxy for private sector expenditure was added to the model (none available from UNGASS report), using the average of SADC private sector spending on HIVAIDS – 0.038% of GDP. Once included this accounts for 50% of expenditures on HIVAIDS. The Domestic Investment Priority Index (DIPI) stands at 0.002 which is very low in comparison to the SADC region where the average was

0.5 (average 2008/09 – 2012/13)<sup>2</sup>. The Resch measure for comparable investment in HIVAIDS sits at 0.3, again low compared to the SADC average of 1.1 over the baseline period<sup>3</sup>.

### 1.3 Resource Gap

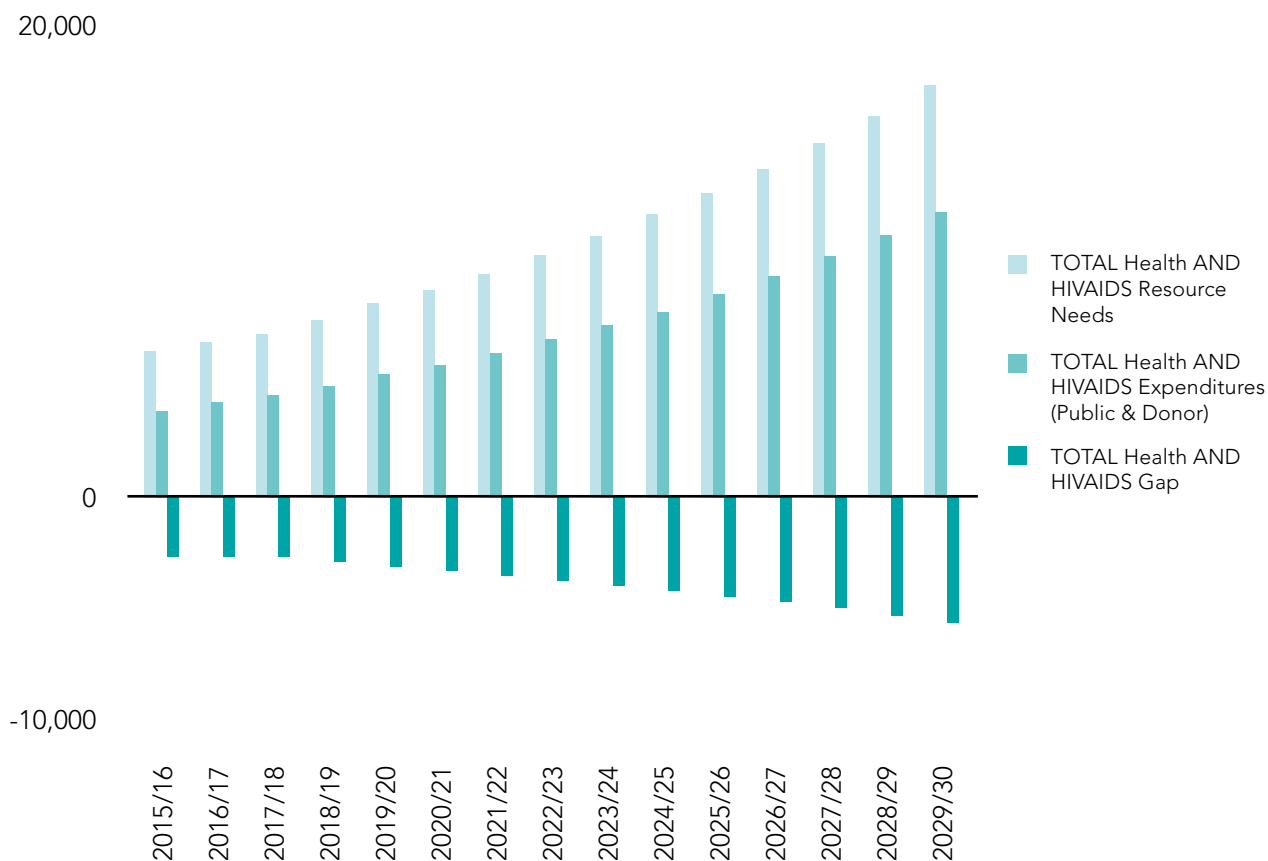
**Scenario 1: Business as Usual** – Angola’s health needs are set at 5% of GDP, and HIVAIDS needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS

and other related policies are continued with a slowdown in donor funding. Figure 1 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- UHC inclusive of HIVAIDS needs are underfunded by around 3.7 billion USD a year if the status quo continues.
- This equates to 1.5% of GDP, or 3.6% of the national budget, over the projection period.

F.1

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: ANGOLA SCENARIO 1 (M USD)



<sup>2</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>3</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.



**Scenario 2: Innovative Action** – Angola takes action to alleviate the resource gap by raising Government Expenditure on Health to 12% (as per average middle income country health expenditure in SADC)<sup>4</sup>. In parallel the government would raise the share of health expenditure to HIVAIDS to 0.5<sup>5</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

## 1.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for Health and HIVAIDS. To offset this and overcome the financing gap four options were examined, these are discussed below and shown in Figure 2:

**1. Increased Government Budget Allocation** – To overcome this resource gap current government funding to the health sector would need to double from the current 6% allocated to health to reach 12% by 2024/25. The DIPI Resch measure would need to rise from 0.3 to 0.5 over the same time period. This would be enough to close the gap in the medium term, reaching a surplus by 2021/22. However, in the short term – if budget redistribution is not immediately possible – other alternative funding options are required.

**2. Alternative Sources** – The remaining resource gap can be partially closed in the short to medium term by the new

alternative sources of funding. These specific taxation measures where revenues are earmarked for UHC including HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 1.3 billion USD a year to the sector. This equates to an average of 0.4% of GDP, and could close the gap by 2019/20 (in conjunction with the budgetary measures).

**3. Efficiency** – If Angola implemented efficiency measure they could save around 0.8 billion USD pa on the cost of UHC and HIVAIDS services. This equates to 0.3% of GDP, or 0.7% of the national budget.

**4. Borrowing** – Finally, if needs were to be entirely covered Angola would be required to borrow in the near term (2015/16 – 2018/19) on average 850 million USD a year. This would raise the Debt: GDP ratio by 0.2 percentage points over the fifteen years.

## 1.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health and HIVAIDS is created through redistribution of current resources rather than increased national tax levels then, as Table 1 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

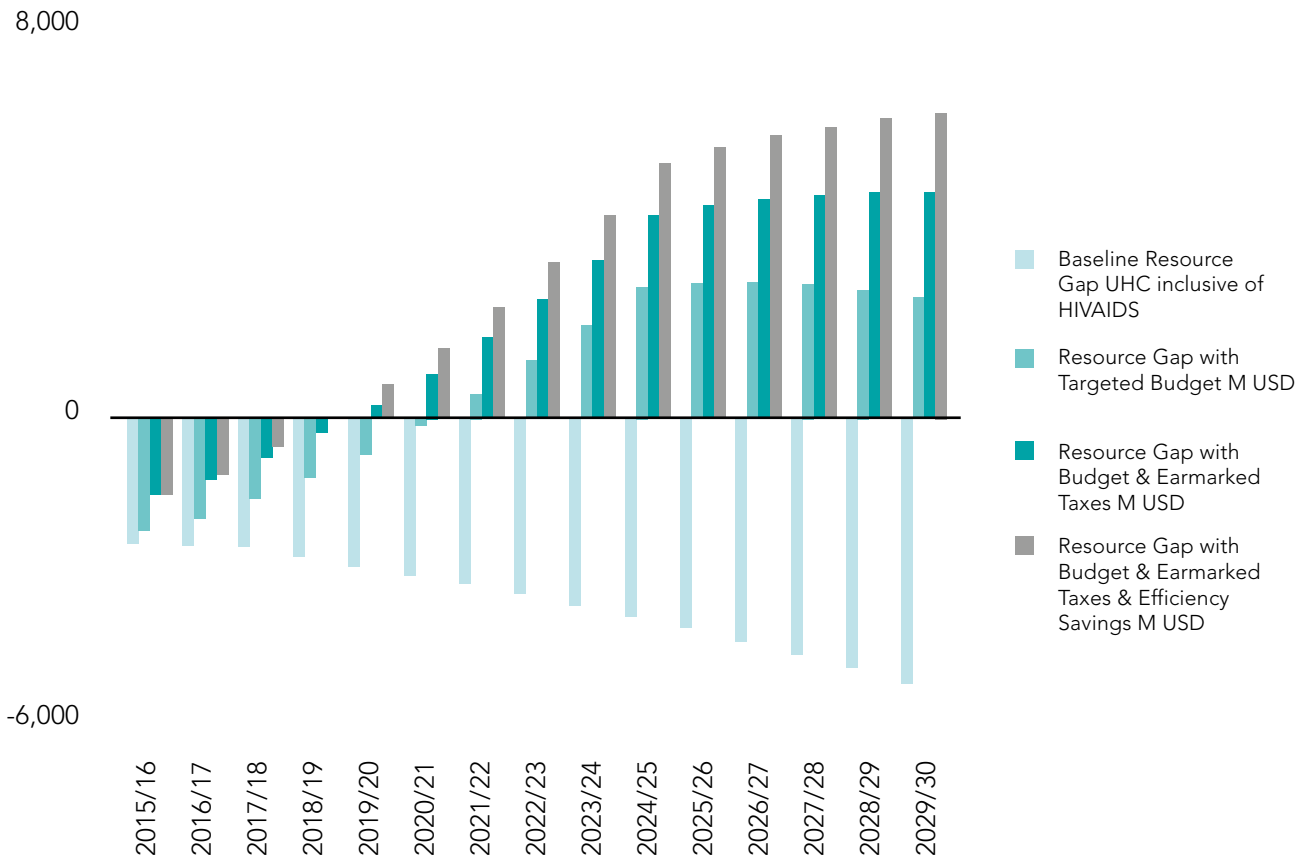
However, the short term low level of investment in UHC and HIVAIDS sectors has led to a resource gap from 2015/16 to

<sup>4</sup> Angola is still a middle income country in 2024/25 and so the middle income target is set rather than the high income which would be relevant after 2029/30.

<sup>5</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.

# F.2

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: ANGOLA SCENARIO 2 (M USD)



2018/19. We've shown that it looks likely that this can be covered by a slow sustainable rise in government expenditures to health; new innovative measures; and efficiency savings. But to cover the gap in the short run some new borrowing would be necessary. This is only a small amount – less than 1% of GDP – and if carefully managed could add little pressure on the debt burden. It must be kept in mind that this would only be a short term measure. The current levels of debt are projected to remain within the 60% ratio prescribed by SADC – this addition brings the projection to 36.1% - and below the 40% recommended by IMF as a sustainable debt ratio. Therefore if no new domestic (or

development partner) monies can be found concessional borrowing may be a policy option.

### 1.6 Data Issues

Angola data availability allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2012/13) was used as a basis for trend projections.

For HIVAIDS the UNGASS 2010 and 2012 reports were used.



## 2 Botswana

### 2.1 Macro Indicators and Convergence Criteria

Table 2 shows a sub-set of key macroeconomic indicators for Botswana resulting from the financing gap model. These show that Botswana is growing at around 5% in real terms over the time period. Inflation is

projected to fall as required by SADC to 3% by 2029/30, averaging 4% over the longer term. The Governments' Fiscal Deficit is within acceptable boundaries and Public Debt is low and well below the SADC criteria. Indeed the IMF's Debt Sustainability Analysis shows that levels of debt are at historic lows and little risk is identified<sup>6</sup>.

## T.2 MODEL PROJECTIONS FOR BOTSWANA COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	5.2%	4.8%	-
Nominal GDP Growth	-	-	13.3%	9.3%	-
GDP per capita (USD)	-	-	7,568	14,573	-
Inflation (Annual Change)	5%	3%	7.0%	4.3%	-
Fiscal Deficit (+/- 1%)	3%	3%	-1.2%	1.0%	-
Tax Burden**	-	-	23.8%	28.7%	29.1%
Public Debt (% GDP)	60%	60%	16.5%	11.3%	13.3%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>6</sup> IMF Country Report No. 13/296 (Sept 13) 'Botswana 2013 Article IV Consultation'.



GDP per capita is expected to grow from around 8,000 USD in 2014/15 to almost 24,000 in 2029/30. This is a movement up from middle income to high income status over the time period – as such all macroeconomic indicators have been targeted to meet high income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

## 2.2 Current Situation in Health and HIVAIDS

Using the World Health Organisation (WHO) data for 2008/09 – 2011/12 the Health sector in Botswana is primarily funded by the Government who provided 55% of total health expenditures. Private Companies provide about a third – mostly through private health insurance. International Donors account for 10%, and Households Out of Pocket Expenditures account for only 4% of the total health expenditures; both of which are low relative to other SADC countries. The National Budget allocation to health is around 7%.

For HIVAIDS the NASA 2008/09 data shows that almost 60% of funding was supplied by the government. 38% comes from donors, and only 3% from the private sector. Total expenditure on HIVAIDS was about 3% of GDP, and government expenditure on HIVAIDS accounts for 3% of the National Budget. This and a Domestic Investment Priority Index (DIPI) of 0.1 compared to the SADC region where the average was 0.5 (2008/09 – 2012/13)<sup>7</sup>. The Resch measure for comparable investment in HIVAIDS sits at 1.5, performing better as compared to the SADC average of 1.1 over the baseline period<sup>8</sup>.

## 2.3 Resource Gap

**Scenario 1: Business as Usual** – Botswana's lower level health needs are set at 5% of GDP and HIVAIDS needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 3 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- Botswana is already on a path to meet the targets for Government Expenditure on Health as a proportion of government expenditure: 9% (as per average high income country health expenditure in SADC). In parallel the government is also projected to continue to spend above the 'fair share' of health expenditure to HIVAIDS – 1.0 versus the target of 0.5<sup>9</sup>.
- UHC and HIVAIDS combined resource needs are projected to be underfunded by 0.8 billion USD pa if the status quo continues. This equates to an average of 2.7% of GDP a year, or 7.6% of the national budget.

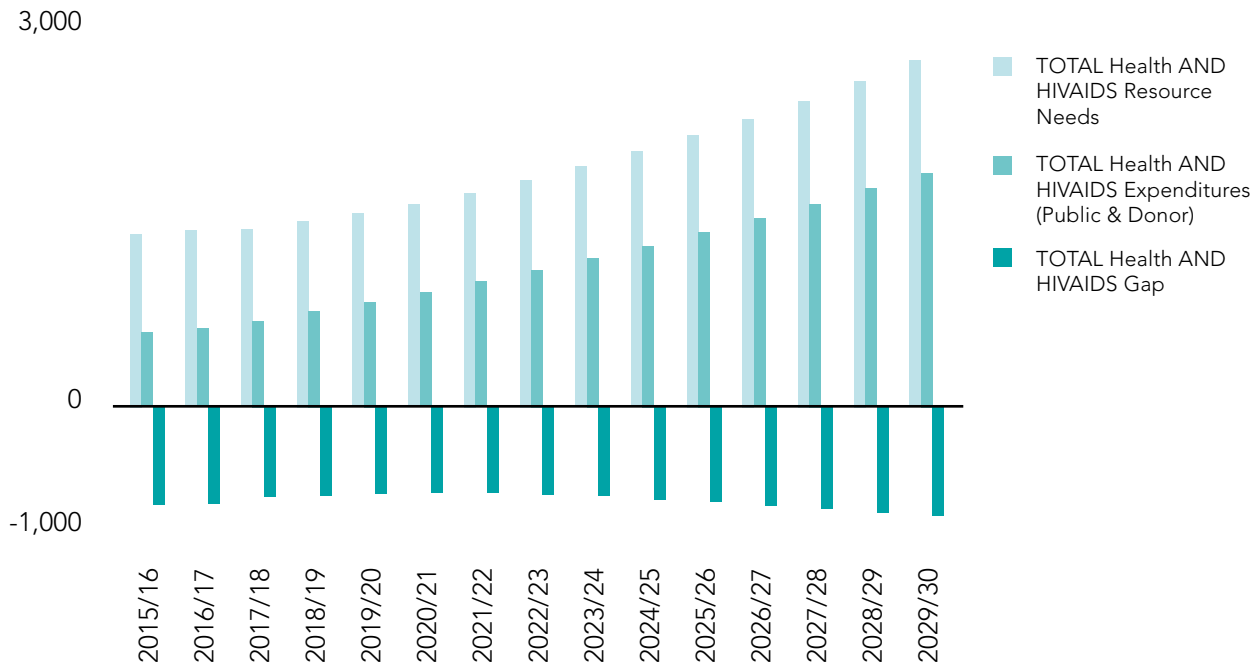
What do these findings mean? By the targets we are using in this model it seems that Botswana should have enough funds to cover the combined UHC and HIVAIDS resource gap. However, it does not necessarily mean all needs are covered in Botswana, just that 'theoretically' they could be depending on the distribution of resources. Moreover, if there were changes to priority needs in Botswana there is much fiscal space to utilise to increase the services offered in Botswana.

<sup>7</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>8</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

<sup>9</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.

**PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: BOTSWANA SCENARIO 1 (M USD)**



**Scenario 2: Innovative Action** – Since public spending on health and HIVAIDS is projected to grow to levels to sustain needs in this second scenario we look only at earmarked funds and efficiency savings.

**2.4 Domestic Financing Options**

The modelling projections imply a reduction in monies from the international community for Health and HIVAIDS. To offset this and overcome the financing gap three policy options were examined (as Botswana already invests to the targeted budget amount), these are discussed below and shown in Figure 4:

**1. Alternative Sources** – The resource gap can be partially closed by introducing new alternative sources of funding. These specific taxation measures where revenues are earmarked for Health and HIVAIDS

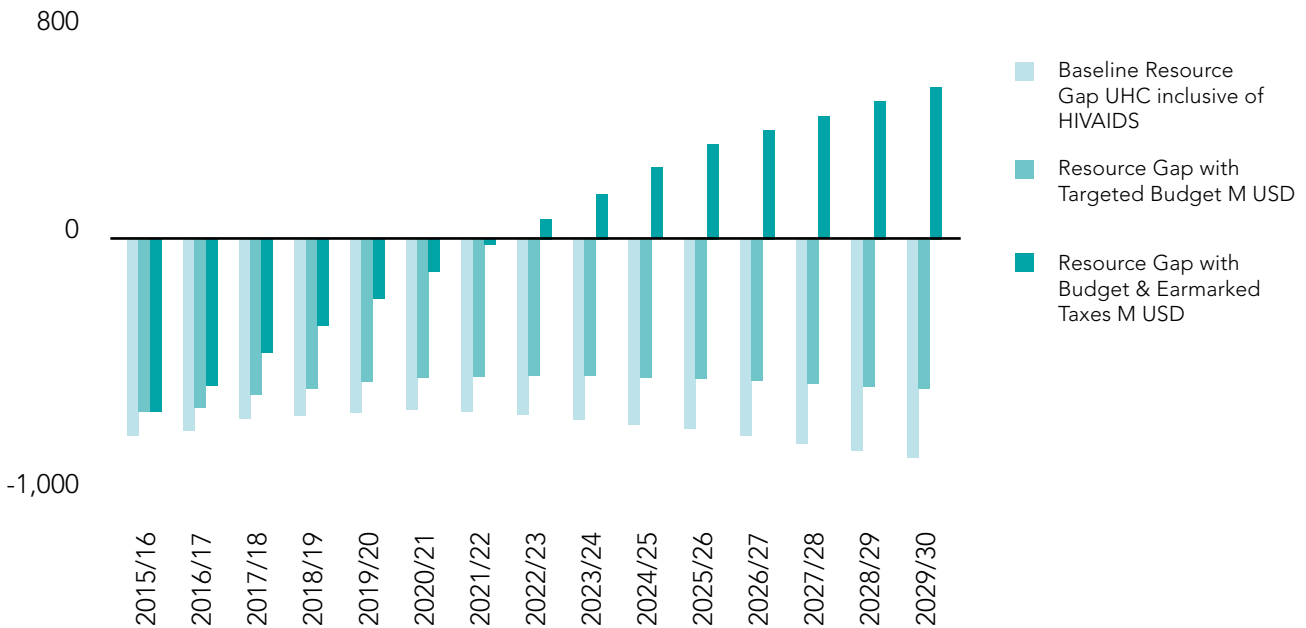
(such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 165 million USD a year. This equates to an average of 0.4% of GDP.

**2. Efficiency** - If Botswana implemented efficiency measure they could save 620 million USD pa on the cost of health and HIVAIDS services. This equates to around 1.9 % of GDP, or up to 5% of the national budget. These two policy initiatives (earmarked taxes and efficiency) would be able to close the resource gap by 2022/23.

**3. Borrowing** – However, in the near term if needs were to be entirely covered Botswana would be required to borrow on average 350 million USD a year from 2015/16 to 2021/22. This would raise the Debt: GDP ratio by 3.1 percentage points over these seven years.

# F.4

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: BOTSWANA SCENARIO 2 (M USD)



### 2.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health is created through redistribution of current resources rather than increased national tax levels then, as the Table 2 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

However, the medium term low level of investment in UHC and HIVAIDS sectors has led to a resource gap from 2015/16 to 2021/22. We've shown that it looks likely that this can be covered by a slow sustainable rise in government expenditures to health; new innovative measures; and efficiency savings. But to cover the gap in the medium run some new borrowing would be necessary. This could be around 3% of GDP and if carefully managed could add little pressure on the debt burden since Botswana has low levels of public debt – currently projected to be only 11.3% of GDP in the 'business as usual'

scenario. It must be kept in mind that this would only be a short term measure. The current levels of debt are projected to remain well within the 60% ratio prescribed by SADC – this addition brings the 15 year projection to 13.3% - and below the 40% recommended by IMF as a sustainable debt ratio. Therefore if no new domestic (or development partner) monies can be found concessional borrowing may be a policy option.

### 2.6 Data Issues

Botswanan data availability allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

However, for HIVAIDS there was limited data sources. The NASA 2008 report was used as the basis for projections with only one data point.



## 3 Democratic Republic of Congo

### 3.1 Macro Indicators and Convergence Criteria

Table 3 shows a sub-set of key macroeconomic indicators for the Democratic Republic of Congo (Congo) resulting from the financing gap model. These show that Congo is growing at an average of 7.2% which is in line with the SADC criteria, and slowing down slightly over the longer term. Inflation is falling slower than required by SADC but could get

to 3% by 2029/30 with appropriate policies. The Governments' Fiscal Deficit has a strong possibility to grow to more than 5% of GDP which is out with the SADC convergence bounds. Public Debt is currently low due to debt relief and projected to stay within the SADC limits of 60% of GDP. However the IMF state that there are strong pressures for this to rise and the IMF's Debt Sustainability Analysis suggests Congo remains at "high risk of debt distress"<sup>10</sup>.

## T.3 MODEL PROJECTIONS FOR CONGO COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	7.2%	6.0%	-
Nominal GDP Growth	-	-	15.2%	10.7%	-
GDP per capita (USD)	-	-	418	848	
Inflation (Annual Change)	5%	3%	7.9%	4.4%	-
Fiscal Deficit (+/- 1%)	3%	3%	-3.2%	-5.7%	-
Tax Burden**	-	-	11.1%	17.8%	18.2%
Public Debt (% GDP)	60%	60%	26.2%	37.1%	44.1%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>10</sup> IMF Country Report No. 13/94 (April 2013) 'Democratic Republic of Congo: 2012 Article IV Consultation'.

GDP per capita is expected to grow from around 500 USD in 2014/15 to 1,250 in 2029/30. This is a movement up from low income to middle income status over the time period – as such all macroeconomic indicators have been targeted to meet middle income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

### 3.2 Current Situation in Health and HIVAIDS

Using the World Health Organisation (WHO) data for 2008/09 – 2011/12 the Health sector in Congo is largely paid for by the state which contributes 50% of the health funding. Donor funding equates to around 8% of the total health expenditures and the private sector not more than 3%. However, Households Out of Pocket Expenditures account for 40% of health expenditure. From the National Budget allocation to health is around 7%.

For HIVAIDS the NASA and Investment Framework for HIVAIDS data show that almost all of funding comes from donors. The Government provides only 2% of funding for HIVAIDS and these levels of

expenditure are low at 0.1% of the National Budget. The Domestic Investment Priority Index (DIPI) is low at 0.001, which is significantly less than the SADC regional average of 0.5 (from 2008/09 – 2012/13)<sup>11</sup>. The Resch measure for comparable investment in HIVAIDS sits at 0.3, again low compared to the SADC average of 1.1 over the baseline period<sup>12</sup>.

### 3.3 Resource Gap

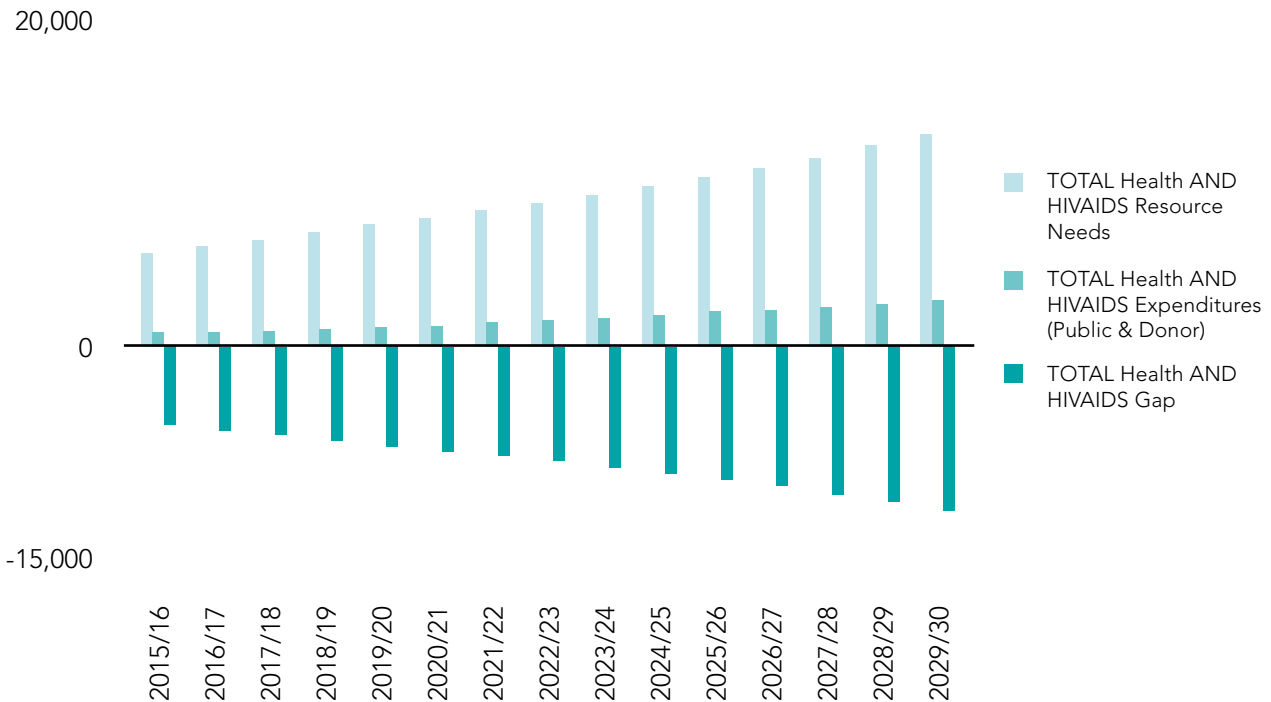
**Scenario 1: Business as Usual** – Congo's lower level health needs are set at 86 USD per capita and HIVAIDS needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 5 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- UHC inclusive of HIVAIDS resource needs are projected to be underfunded by 8 billion USD pa if the status quo continues.
- This equates to 11% of GDP or 42% of the national budget.

<sup>11</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>12</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: CONGO SCENARIO 1 (M USD)



**Scenario 2: Innovative Action** – Congo takes action to alleviate the resource gap by raising Government Expenditure on Health to 8% (as per average low income country health expenditure in SADC)<sup>13</sup>. In parallel the government would raise the share of health expenditure to HIVAIDS to 0.5<sup>14</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

### 3.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community

for Health and HIVAIDS. To offset this and overcome the financing gap four options were examined, these are discussed below and shown in Figure 6:

- 1. Increased Government Budget Allocation** - To provide some reduction of this resource gap current government funding to the health sector would need to increase from the current 7% allocated to health to 8% (as per low income average spend in SADC). The DIPI Resch measure would need to rise from 0.3 to 0.5 over the same time period. With a greater government commitment to UHC financing over the next fifteen years the gap could be reduced by an average of

<sup>13</sup> Congo is still a low income country in 2024/25 and so the low income target is set rather than the middle income which would be relevant after 2026/27.

<sup>14</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.

192 million USD pa. However this would not be sufficient to close the gap and other alternative funding options would be required.

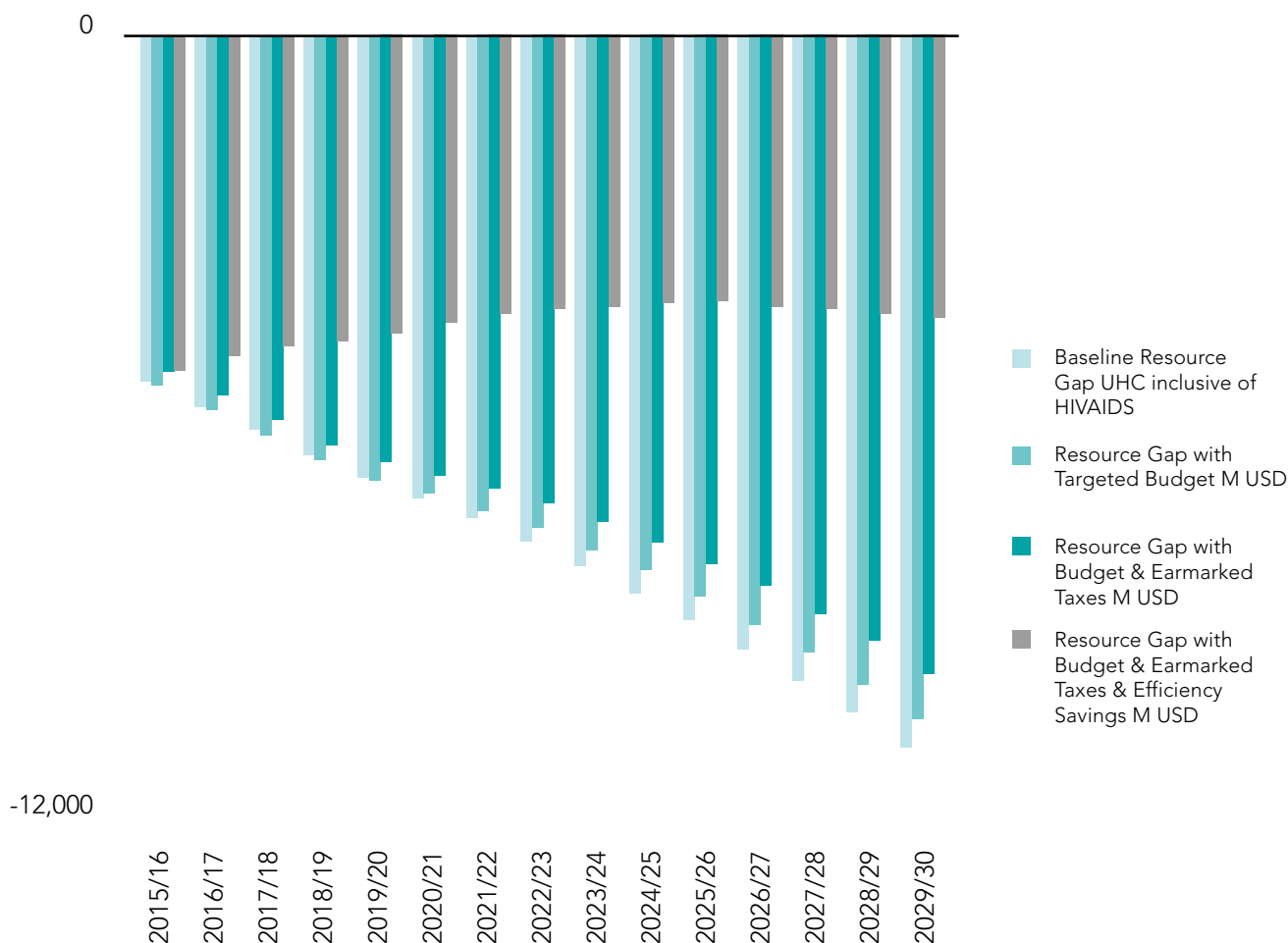
**2. Alternative Sources** – The remaining gap can be reduced by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for Health and HIV/AIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 400 million USD per year. This equates to an average of 0.4% of GDP.

**3. Efficiency** - If Congo implemented efficiency measure they could save around 3 billion USD pa on the cost of services. This equates to 3.7% of GDP, or up to 13% of the national budget.

**4. Borrowing** – Finally, it is projected that to fully close the financing gap accumulation of debt is necessary to meet the needs for Congo. The amount required to borrow to fully close the gap would be around 4.5 billion USD per year over the fifteen years. In relation to the economy this would around 7% of GDP.

# F.6

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: CONGO SCENARIO 2 (M USD)



### 3.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health and HIVAIDS is created through redistribution of current resources rather than increased national tax levels then, as the Table 2 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

However, the particularly low level of investment in the Health and HIVAIDS sectors has led to a large resource gap. We've shown that it looks likely that this can be covered by a slow sustainable rise in government expenditures to health; new innovative measures; and efficiency savings. But to cover the gap in full new borrowing would be necessary. This would not be an insignificant amount – 7% of GDP – and could add pressure to what the IMF classify as 'high risk of debt distress' which already exists. Having said that the projected levels of debt including UHC/

HIVAIDS borrowing would lead to an average debt: GDP ratio of 44.1% which is within the 60% ratio prescribed by SADC, (but above that prescribed by the IMF as a sustainable debt ratio - 40%). It is expected that borrowing for UHC would not be a recommendation for Congo, if essential concessional borrowing should be the priority.

### 3.6 Data Issues

The data available for Congo allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

For HIVAIDS the National Investment Framework report for HIVAIDS had past data from NASA reports and strong projections on future funding including projections from donors.



## 4 Lesotho

### 4.1 Macro Indicators and Convergence Criteria

Table 4 shows a sub-set of key macroeconomic indicators for Lesotho resulting from the financing gap model. Lesotho's growth rate looks strong over the period and inflation should fall to

meet the SADC criteria although later than 2018. The Governments' Fiscal Deficit has the potential to grow but remains within acceptable boundaries. Public Debt is at a sustainable level and well below the SADC criteria of 60% of GDP. The IMF's latest Debt Sustainability Analysis states that Lesotho is at "moderate risk of debt distress"<sup>15</sup>.

## T.4 MODEL PROJECTIONS FOR LESOTHO COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	7.3%	6.1%	-
Nominal GDP Growth	-	-	13.0%	10.7%	-
GDP per capita (USD)	-	-	1,211	2,617	-
Inflation (Annual Change)	5%	3%	5.7%	4.6%	-
Fiscal Deficit (+/- 1%)	3%	3%	0.0%	-1.0%	-
Tax Burden**	-	-	22.9%	26.4%	26.7%
Public Debt (% GDP)	60%	60%	36.4%	32.8%	33.5%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>15</sup> IMF Country Report No. 13/294 (Sept 2013) 'Kingdom of Lesotho Sixth Review Under The Three-Year Arrangement Under The Extended Credit Facility'.



GDP per capita is expected to grow from around 1,300 USD in 2014/15 to almost 4,300 in 2029/30. Lesotho is projected to remain a middle income country over the time period – as such all macroeconomic indicators have been targeted to meet middle income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

## 4.2 Current Situation in Health and HIVAIDS

Using the World Health Organisation (WHO) data for 2008/09 – 2011/12 half of the Health sector Expenditures in Lesotho are sourced from the Government. Donors and Households Out of Pocket Expenses provide around 20% each, and the remainder is sourced from private companies. From the National Budget allocation to health sits at around 9%.

For HIVAIDS the NASA 2008/09 and 2009/10 reports show an equal share of funding comes from the Government and Donors, with only 1% from private contributions. Government expenditure on HIVAIDS account for 5% of the national Budget. The Domestic Investment Priority Index (DIPI) stands at 0.2 which is low in comparison to the SADC region where the average was 0.5 (average 2008/09 – 2012/13)<sup>16</sup>. The Resch measure for comparable investment in HIVAIDS sits at 1, which is in line with the SADC average of 1.1 over the baseline period<sup>17</sup>.

## 4.3 Resource Gap

**Scenario 1: Business as Usual** – Lesotho's lower level health needs are set as equal to the current levels of health expenditure – this is because Lesotho already spends more than 86 USD per capita and 5% of GDP on Health (112 USD in 2011/12, and 10% of GDP). HIVAIDS needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 7 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

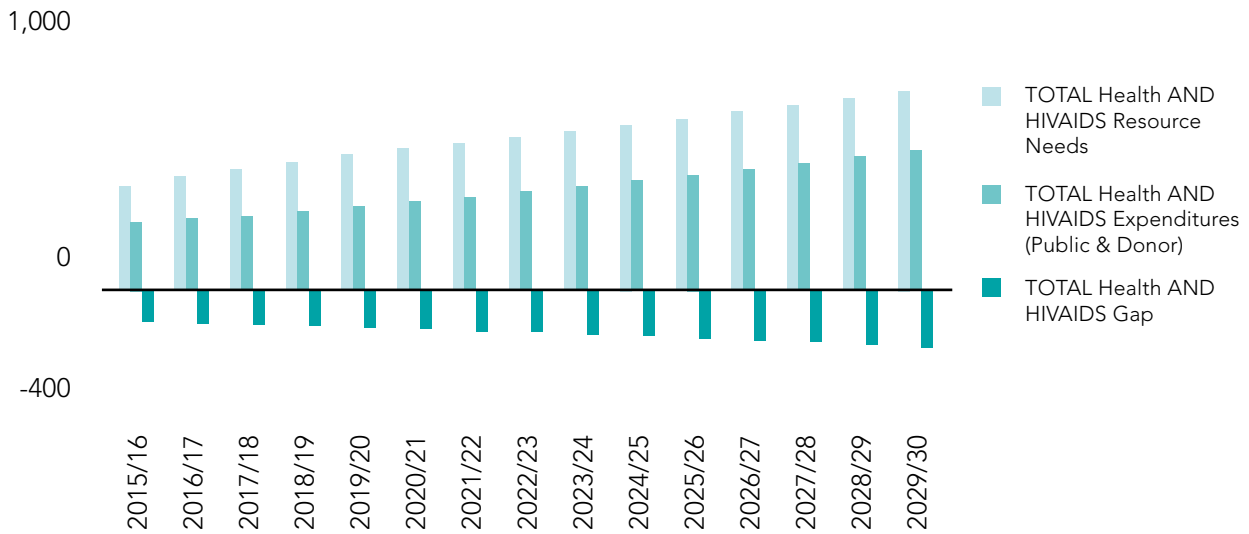
- UHC inclusive of HIVAIDS resource needs should be able to be funded from the current levels of expenditure in Lesotho. As mentioned above the health expenditure from Government is above the international level for basic needs and so adequate allocation to HIVAIDS is within the government's budget. However, at the moment the allocation to HIVAIDS is slightly lower and so a combined resource gap is found. This equates to 200 million USD a year.
- The gap is around 3.6% of GDP, or 8.9% of the national budget over the time period.

<sup>16</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>17</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

# F.7

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: LESOTHO SCENARIO 1 (M USD)



**Scenario 2: Innovative Action** – Lesotho has relatively high levels of budget allocation to health – over the 12% found within SADC middle income countries. However, they could raise their HIVAIDS allocation within the health budget to gain a DIPI of 0.5<sup>18</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

### 4.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for Health and HIVAIDS. To offset this and overcome the financing gap four options were examined, these are discussed below and shown in Figure 8:

**1. Increased Government Budget Allocation** – Within the current health expenditures the allocation to HIVAIDS has been raised from 0.4 to 0.5 (the DIPI

Resch ‘fair share’ measure) by 2024/25 and remains at this level. With this policy Lesotho gap declines by an average of 400 million a year, but this is not sufficient and so other means of financing are required.

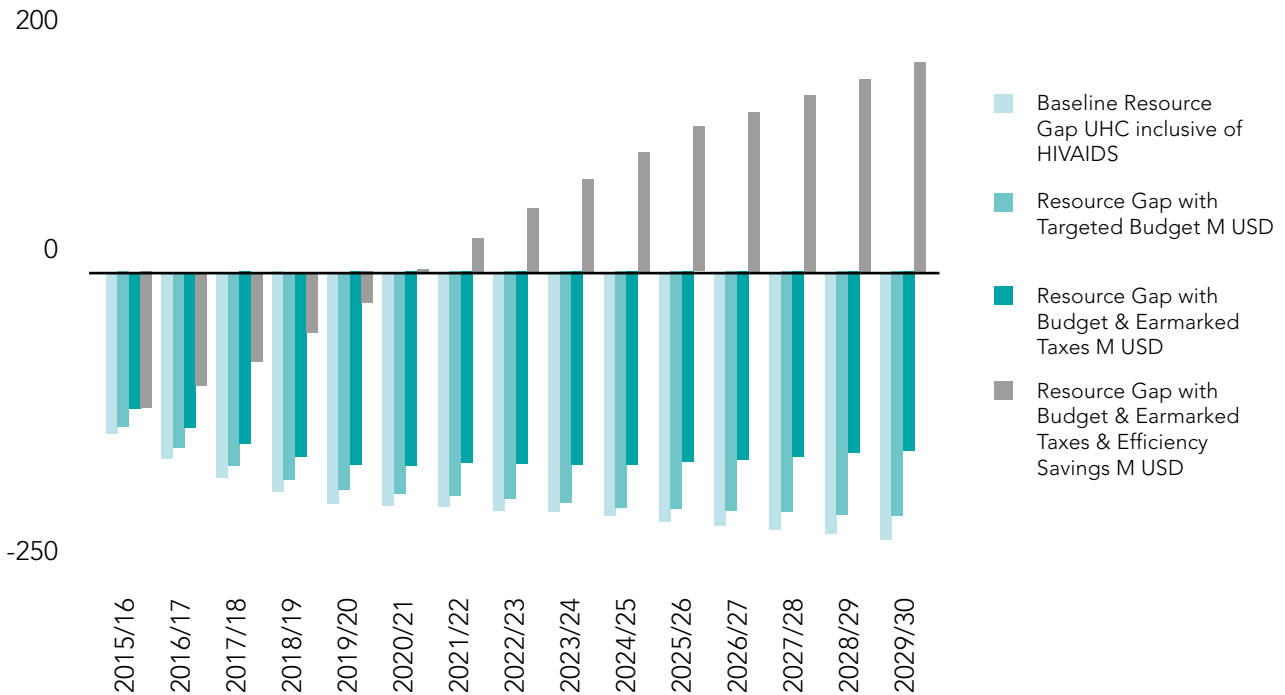
**2. Alternative Sources** – These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 33 million USD a year to the sector. This equates to an average of 0.4% of GDP.

**3. Efficiency** - If Lesotho implemented efficiency measure they could save on average 200 million USD pa on the cost of services. This equates to around 3.2% of GDP, or 8.3% of the national budget. These three policy measures would be able to close the resource gap by 2020/21.

**4. Borrowing** – Finally, to close the gap in the near term 74 million USD is required over the initial five years.



**PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: LESOTHO SCENARIO 2 (M USD)**



<sup>18</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.

**4.5 Fiscal and Macro Implications**

Assuming that the increased budget allocation to HIVAIDS is created through redistribution of current resources rather than increased national tax levels then, as Table 2 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

If the 74 million USD were to be borrowed to close the gap in its entirety, this would mean a rise in the Debt: GDP ratio of 0.8 percentage points. Lesotho is projected to have a debt stock of around 33%, whilst this is within the IMF and SADC targets the country is considered to be at moderate

risk of debt distress. Therefore if no new domestic (or development partner) monies can be found concessional borrowing may be a policy option.

**4.6 Data Issues**

The data availability for Lesotho allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

For HIVAIDS the NASA reports of 2008/09 and 2009/10 were used. More time series and up to date data would have been preferable.

## 5 Madagascar

### 5.1 Macro Indicators and Convergence Criteria

Table 5 shows a sub-set of key macroeconomic indicators for Madagascar resulting from the financing gap model. These show that Madagascar will have to mitigate inflationary pressures to ensure that they meet the SADC real growth

criteria. On average over the longer term inflation could fall to just above the 3% target. The Governments' Fiscal Deficit runs the risk of rising above the SADC boundaries. Public Debt is low and well below the SADC criteria. The IMF's latest Debt Sustainability Analysis states that Madagascar is at 'low risk' of debt distress<sup>19</sup>.

## T.5 MODEL PROJECTIONS FOR MADAGASCAR COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	1.9%	4.9%	-
Nominal GDP Growth	-	-	9.4%	9.2%	-
GDP per capita (USD)	-	-	453	713	-
Inflation (Annual Change)	5%	3%	7.5%	4.3%	-
Fiscal Deficit (+/- 1%)	3%	3%	-2.5%	-4.4%	-
Tax Burden**	-	-	9.7%	17.6%	17.9%
Public Debt (% GDP)	60%	60%	37.5%	25.6%	34.8%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>19</sup> Cited in IMF Country Report No. 15/24 (Jan 2015) 'Republic of Madagascar 2014 Article IV Consultation.

GDP per capita is expected to grow from just less than 500 USD in 2014/15 to 1,000 in 2029/30. This is a movement up from low to middle income status over the time period – as such all macroeconomic indicators have been targeted to meet middle income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

## 5.2 Current Situation in Health and HIVAIDS

Using the World Health Organisation (WHO) data for 2008/09 – 2011/12 the Health sector in Madagascar is financed in the main by Households Out of Pocket Expenditures which account for 26% of Total Health Expenditure (THE). The Government contributes 28%, Donors 25% and only 4% being provided by private companies. From the National Budget government allocation to health sits at around 8%, as a percentage of GDP THE is 4%.

For HIVAIDS the NASA 2008 and UNGASS 2012 - 2013 reports suggests that 80% of funding comes from donors. The Government provides 19% of all funding for HIVAIDS. Private sector expenditure estimated to be low at around 1% of total HIVAIDS spending. In total, HIVAIDS

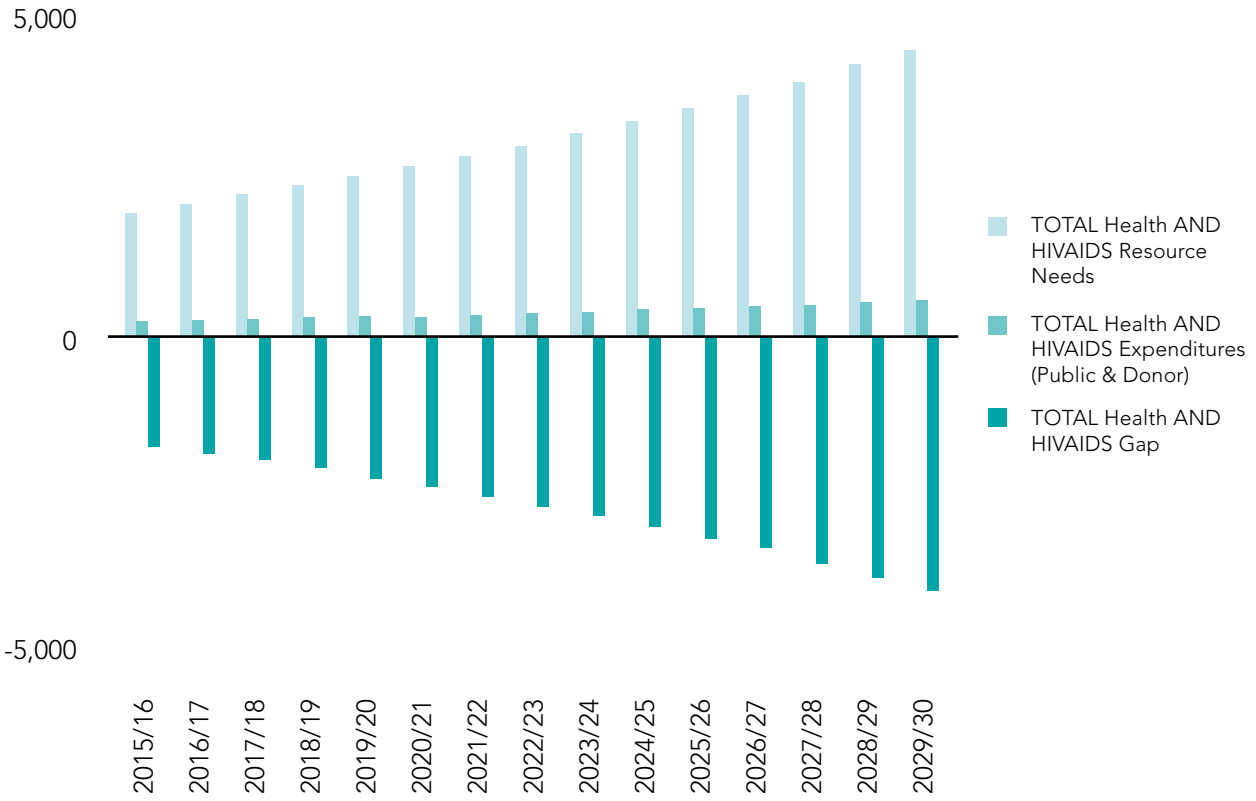
spending equates to 0.3% of GDP, and government budget allocation to HIVAIDS is around 1%. The Domestic Investment Priority Index (DIPI) stands at 0.07 which is very low in comparison to the SADC region where the average was 0.5 (average 2008/09 – 2012/13)<sup>20</sup>. The Resch measure for comparable investment in HIVAIDS sits at 0.2, again low compared to the SADC average of 1.1 over the baseline period<sup>21</sup>.

## 5.3 Resource Gap

**Scenario 1: Business as Usual** – Madagascar's health needs are set at 86 USD per capita and HIVAIDS needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 9 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- UHC and HIVAIDS combined resource needs are underfunded by around 2.7 billion USD pa on average up 2029/30 if the status quo continues.
- This equates to 13% of GDP or 57% of the national budget, on average over the next 15 years.

**PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: MADAGASCAR SCENARIO 1 (M USD)**



<sup>20</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.  
<sup>21</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs

**Scenario 2: Innovative Action** – Madagascar takes action to alleviate the resource gap by raising Government Expenditure on Health to 8% (as per average low income country health expenditure in SADC)<sup>22</sup>. In parallel the government would raise the share of health expenditure to HIVAIDS to 0.5<sup>23</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

**5.4 Domestic Financing Options**

The modelling projections imply a reduction in monies from the international community for Health and HIVAIDS. To offset this and overcome the financing gap four options were examined, these are discussed below and shown in Figure 10:

- 1. Increased Government Budget Allocation** – In an attempt to overcome this resource gap current government funding to the health sector would need



to rise from the current 7% allocated to health to reach 8% by 2024/25. The DIPI Resch measure would need to rise from 0.2 to 0.5 over the same time period. This would close the gap by 500 million USD a year over the 15 years, (as Madagascar is near to the low income health allocation already, and moving towards middle income status, they may wish to consider rising their target to the middle income status of 12%).

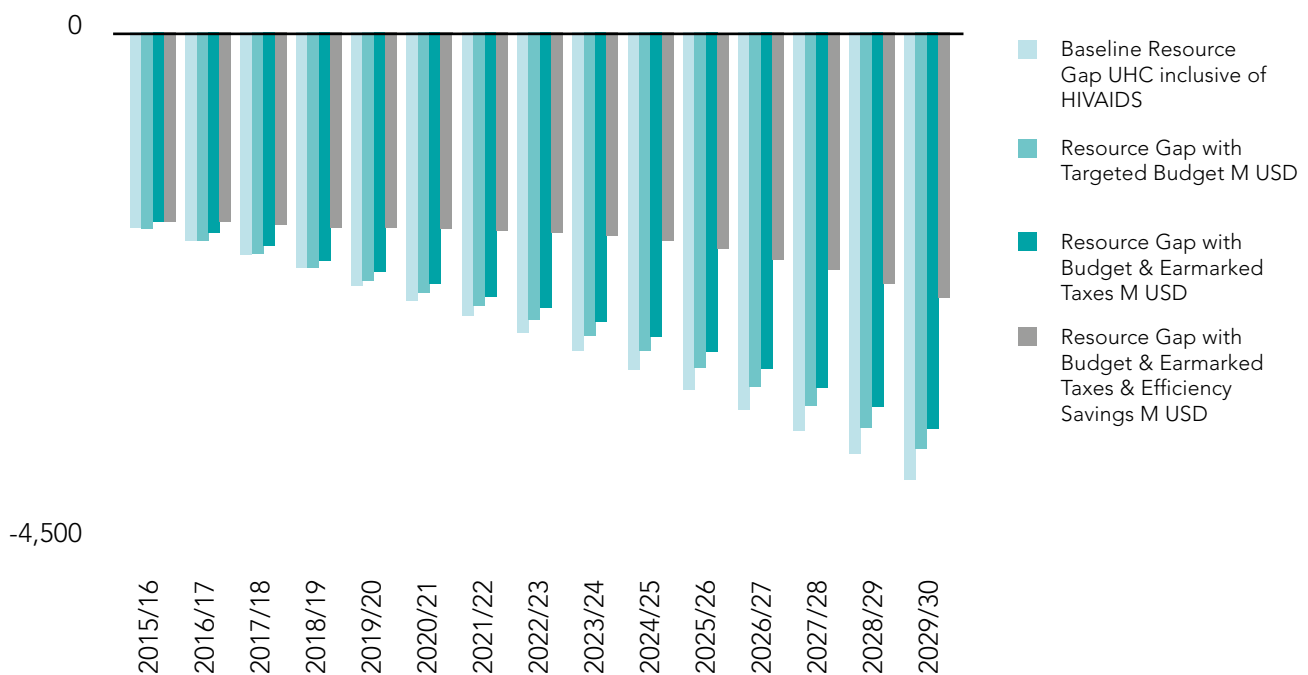
**2. Alternative Sources** – The remaining gap can be reduced by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime

levies, and mainstreaming) have the potential to bring an extra 117 million USD a year to the HIVAIDS sector. This equates to an average of 0.4% of GDP.

**3. Efficiency** – If Angola implemented efficiency measure they could save around 640 million USD pa on the cost of services. This equates to 2.8% of GDP, or 11% of the national budget.

**4. Borrowing** – These three policies combined cannot remove the resource gap. Borrowing each year at an average of 1.9 billion USD would be required to close the gap fully. This equates to 9% of GDP on average over the fifteen years.

## F.10 PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: MADAGASCAR SCENARIO 2 (M USD)



<sup>22</sup> Madagascar is still a low income country in 2024/25 and so the low income target is set rather than the middle income which would be relevant after 2029/30.

<sup>23</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.



## 5.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health and HIVAIDS is created through redistribution of current resources rather than increased national tax levels then, as the Table 2 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

However, to cover the gap in full new borrowing would be necessary. This would not be an insignificant amount – 9% of GDP – and would be required over a long time period. Having said that the projected levels of debt including UHC/HIVAIDS borrowing would lead to an average debt: GDP ratio of 34.8% which is within the 60% ratio prescribed by SADC, and that prescribed by the IMF

as a sustainable debt ratio - 40%. Yet, it is expected that borrowing for UHC would not be a recommendation for Madagascar due to the long term nature and high burden on the economy, but if essential concessional borrowing should be the priority.

## 5.6 Data Issues

Madagascar data availability allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2012/13) was used as a basis for trend projections.

For HIVAIDS the NASA 2008 and the UNGASS 2012-2013 reports were used. These provided the basis for the baseline HIVAIDS expenditures.

## 6 Malawi

### 6.1 Macro Indicators and Convergence Criteria

Table 6 shows a sub-set of key macroeconomic indicators for Malawi resulting from the financing gap model. These show that Malawi will have a challenge to keep a lid on inflationary pressures to ensure that

they meet the SADC real growth criteria. On average over the longer term inflation could fall to just above the 3% target. The Governments' Fiscal Deficit is within acceptable boundaries and Public Debt is below the SADC criteria. The IMF's latest Debt Sustainability Analysis states that risk to debt distress is 'moderate'<sup>24</sup>.

## T.6

### MODEL PROJECTIONS FOR MALAWI COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	2.7%	6.3%	-
Nominal GDP Growth	-	-	16.7%	10.1%	-
GDP per capita (USD)	-	-	286	420	-
Inflation (Annual Change)	5%	3%	14.1%	3.8%	-
Fiscal Deficit (+/- 1%)	3%	3%	-2.4%	-2.5%	-
Tax Burden**	-	-	19.7%	20.6%	21.0%
Public Debt (% GDP)	60%	60%	37.2%	29.6%	48.6%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>24</sup> IMF Country Report No. 12/221 (Aug 2012) 'Malawi 2012 Article IV Consultation'.

GDP per capita is expected to grow from around 250 USD in 2014/15 to more than 600 in 2029/30. This is a movement within the low income country status over the time period – as such all macroeconomic indicators have been targeted to meet low income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

## 6.2 Current Situation in Health and HIVAIDS

Using the World Health Organisation (WHO) data for 2008/09–2011/12 the Health sector in Malawi is financed 18% by the Government and 56% has been provided by international funding. Households Out of Pocket Expenditures account for 14% of health expenditure and the remaining 12% is sourced from private companies. There is no mandatory national health insurance and private health insurance accounts for around 4% of THE. From the National Budget allocation to health sits at around 4%, as a percentage of GDP THE is just less than 8%.

For HIVAIDS the NASA report for 2007/08 shows data for 2008/09. This suggests that 1% of funding comes from government, and 1% from the domestic private sector. External funding provides 98% of all

funding. As a proportion of GDP HIVAIDS total funding equates to 2%, and for the government share HIVAIDS spending is 0.1% of the national budget. The Domestic Investment Priority Index (DIPI) stands at 0.001 which is very low in comparison to the SADC region where the average was 0.5 (average 2008/09 – 2012/13)<sup>25</sup>. The Resch measure for comparable investment in HIVAIDS sits at 0.09, again low compared to the SADC average of 1.1 over the baseline period<sup>26</sup>.

## 6.3 Resource Gap

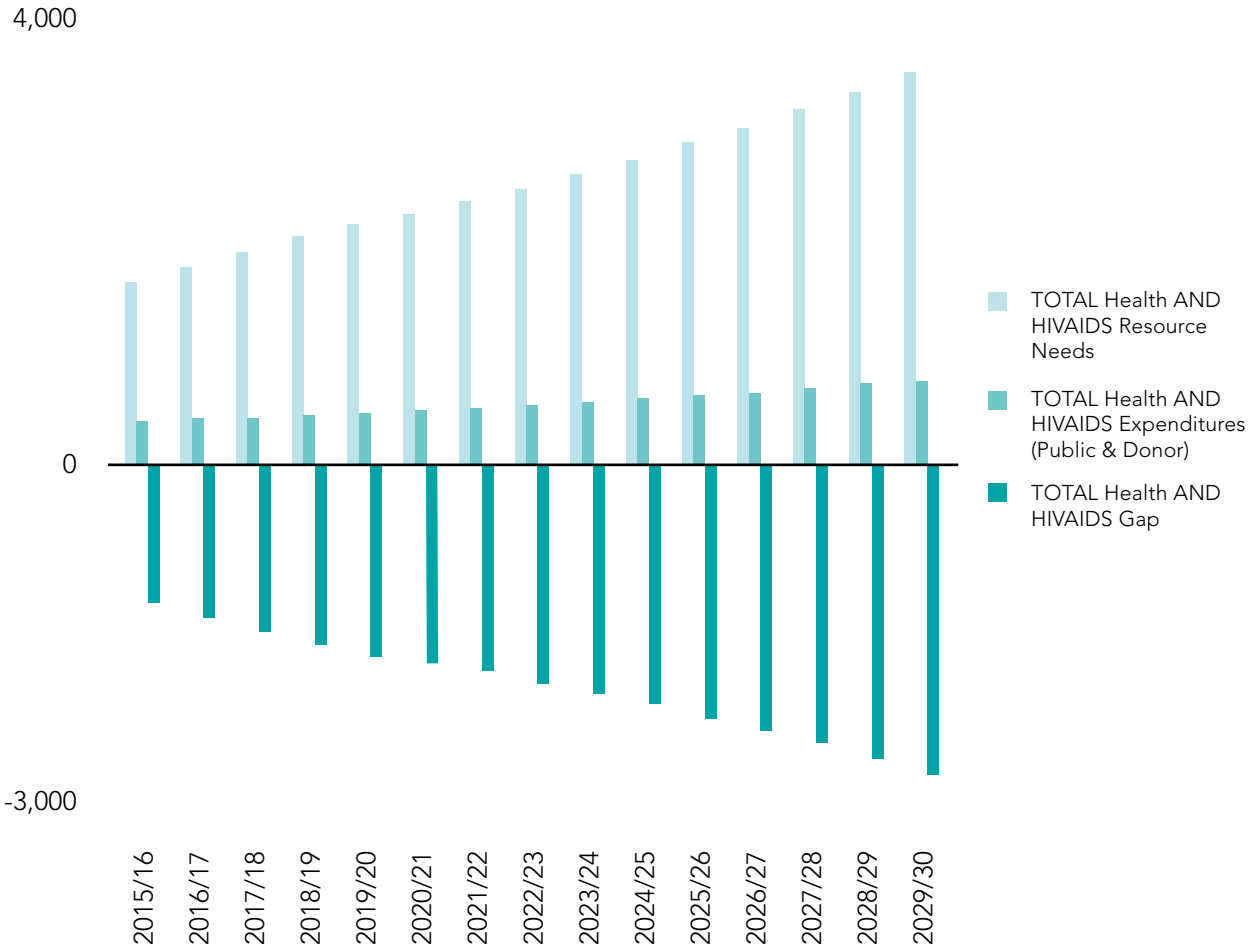
**Scenario 1: Business as Usual** – Malawi's health needs are set at 86 USD per capita and HIVAIDS needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 11 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- Combined UHC and HIVAIDS needs are underfunded by 2 billion USD a year if the status quo continues.
- This equates to 23.5% of GDP or 76% of the national budget, on average over the next 15 years.

<sup>25</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>26</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: MALAWI SCENARIO 1 (M USD)



**Scenario 2: Innovative Action** – Malawi is projected to continue to allocate more than 8% to health from its national budget (as per top tier low income country health expenditure in SADC). However, within this the government should raise the share of health expenditure to HIVAIDS to 0.5<sup>27</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

**6.4 Domestic Financing Options**

The modelling projections imply a reduction in monies from the international community for Health and HIVAIDS. To offset this and overcome the financing gap four options were examined, these are discussed below and shown in Figure 12:

- 1. Increased Government Budget Allocation** – To overcome this gap current

<sup>27</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.

government funding to HIVAIDS should need to rise from 0.3 to 0.5 over the same time period (the DIPI Resch 'fair share' measure). This would not be sufficient to close the gap and so other alternative funding options are required.

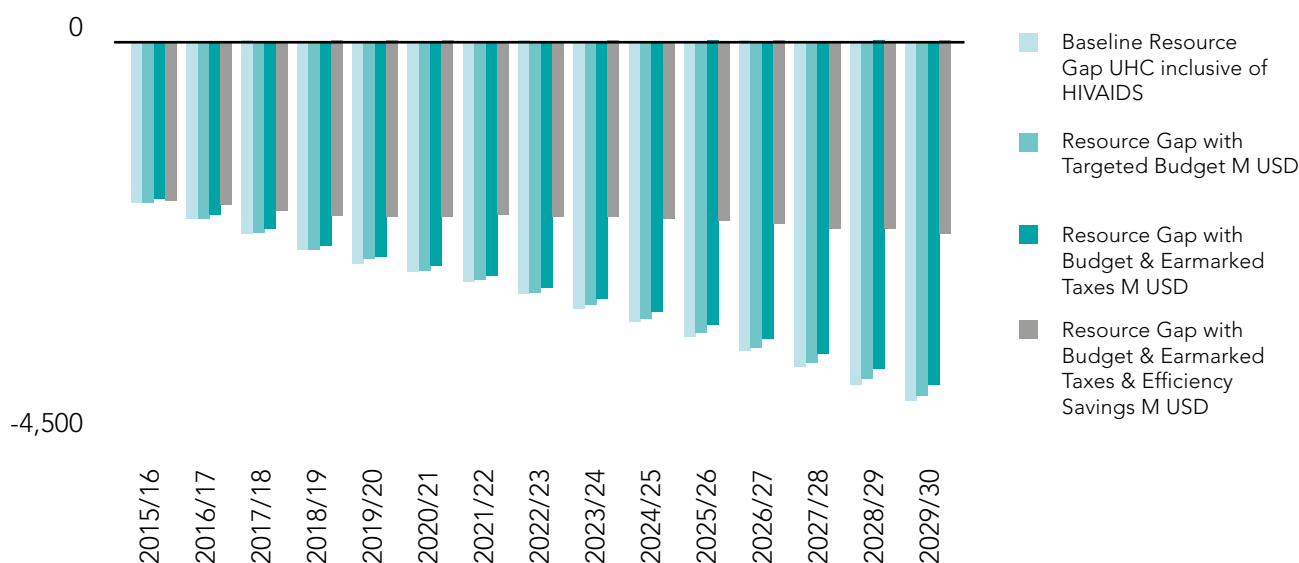
**2. Alternative Sources** – The remaining gap can be partially closed in by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra

50 million USD a year to the HIVAIDS sector. This equates to an average of 0.4% of GDP.

**3. Efficiency** – If Malawi implemented efficiency measure they could save around 580 million USD pa on the cost of services. This equates to 6% of GDP, or 19% of the national budget.

**4. Borrowing** – Finally, it can be noted that if the gap was to be fully closed borrowing over the fifteen years would be necessary at around 1.4 billion USD per year. This is 19% of GDP.

## F.12 PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: MALAWI SCENARIO 2 (M USD)



### 6.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health and HIVAIDS is created through redistribution of current resources rather than increased national tax levels then, as the Table 2 above shows, there is

expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

The increased borrowing needs would raise the Debt: GDP ratio by 19 percentage points from 29.6% to 48.6%



over the projection period. This remains within the SADC limits but out with the IMF suggested sustainability levels. For Malawi borrowing would be a long term investment – required each year for fifteen years. As such it may not be the optimal policy choice for financing UHC with HIVAIDS. If borrowing was a policy consideration concessional debt would need to be a priority as the country is moderately at risk of debt distress.

## 6.6 Data Issues

Malawi data availability allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2012/13) was used as a basis for trend projections.

For HIVAIDS the NASA 2007/08 report had data available for 2008/09. More recent data would be preferable.

## 7 Mauritius

### 7.1 Macro Indicators and Convergence Criteria

Table 7 shows a sub-set of key macroeconomic indicators for Mauritius resulting from the financing gap model. These show that Mauritius should benefit from healthy growth and inflation declining

towards the 3% target over the next ten years. The Governments' Fiscal Deficit is within acceptable boundaries. Public Debt is high, although declining and remains under the SADC ceiling. The IMF's latest Debt Sustainability Analysis states that Mauritius' public debt is sustainable over the medium term<sup>28</sup>.

## T.7 MODEL PROJECTIONS FOR MAURITIUS COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	3.9%	4.8%	-
Nominal GDP Growth	-	-	8.1%	9.0%	-
GDP per capita (USD)	-	-	9,448	20,680	-
Inflation (Annual Change)	5%	3%	4.8%	4.1%	-
Fiscal Deficit (+/- 1%)	3%	3%	-2.3%	-1.3%	-
Tax Burden**	-	-	18.8%	24.8%	25.1%
Public Debt (% GDP)	60%	60%	50.3%	45.5%	45.8%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>28</sup> IMF Country Report No. 13/97 (Apr 2013) 'Mauritius 2013 Article IV Consultation'.



GDP per capita is expected to grow from 10,500 USD in 2014/15 to more than 30,000 in 2029/30. This is a movement up from middle income to high income status over the time period – as such all macroeconomic indicators have been targeted to meet high income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

## 7.2 Current Situation in Health and HIVAIDS

Using the World Health Organisation (WHO) data for 2008/09 – 2011/12 the Health sector in Mauritius is mostly funding through Households Out of Pocket Expenditures which account for 50% of health expenditure. The Government provides just over 40% of Total Health Expenditure, and donors only 2%. The remaining 5% is sourced from private companies. THE has been around 5% of GDP, and government expenditure on health is around 9% of the National Budget.

For HIVAIDS the UNGASS 2012 report shows that the Government provides 65% of all funding for HIVAIDS, donors 30%, and private consumption of 4%. Levels of total expenditure are low at 0.1% of the GDP, and government allocates 0.2% of the National Budget to HIVAIDS. In 2010/11 the Domestic Investment Priority Index (DIPI) stands at 0.2 which is lower in comparison to the SADC region where the average was 0.5 (average 2008/09

– 2012/13)<sup>29</sup>. The Resch measure for comparable investment in HIVAIDS is 1.6, this measure is higher compared to the SADC average of 1.1 over the baseline period<sup>30</sup>.

## 7.3 Resource Gap

**Scenario 1: Business as Usual** – Mauritius' health needs are set at 5% of GDP and HIVAIDS needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 13 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- UHC inclusive of HIVAIDS resource needs are underfunded by around 380 million USD pa over the next 15 years if the status quo continues.
- This equates to 1.5% of GDP or 5.5% of the national budget.

What do these findings mean? By the targets we are using in this model it seems that Mauritius should have enough funds to cover the combined UHC and HIVAIDS resource gap. However, it does not necessarily mean all needs are covered just that 'theoretically' they could be depending on the distribution of resources. Moreover, if there were changes to priority needs in Mauritius there is much fiscal space to utilise to increase the services offered in Mauritius.

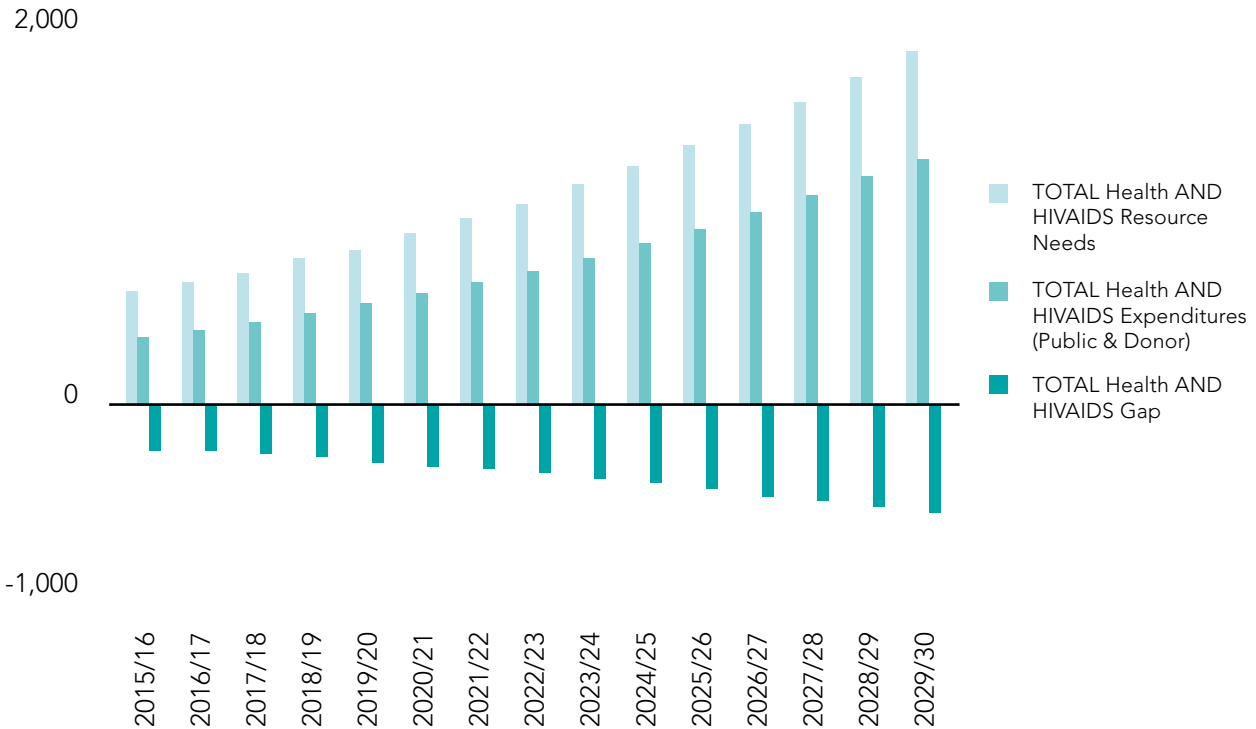
<sup>29</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>30</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.



# F.13

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: MAURITIUS SCENARIO 1 (M USD)



**Scenario 2: Innovative Action** – Mauritius already allocates the average high income country target for health expenditure in SADC: 9%. Moreover, the government is projected to continue to allocate more than the proposed ‘Resch fair share’ of health expenditure to HIVAIDS: a DIPI of 0.5<sup>31</sup>. Therefore focus is kept on other financing options such as earmarked funds and efficiency savings.

### 7.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for Health and HIVAIDS. To

offset this and overcome the financing gap four options were examined, these are discussed below and shown in Figure 14:

- 1. Increased Government Budget Allocation** – As mentioned the government are already considered to be allocating sufficient funding to health and HIVAIDS.
- 2. Alternative Sources** – The resource gap can be closed over the longer term by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the

<sup>31</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.



potential to bring an extra 138 million USD a year to the HIVAIDS sector. This equates to an average of 0.4% of GDP.

**3. Efficiency** – If Mauritius implemented efficiency measure they could save an average of 290 million USD pa on the cost of services. This equates to around 1% of GDP, or 3% of the national budget each

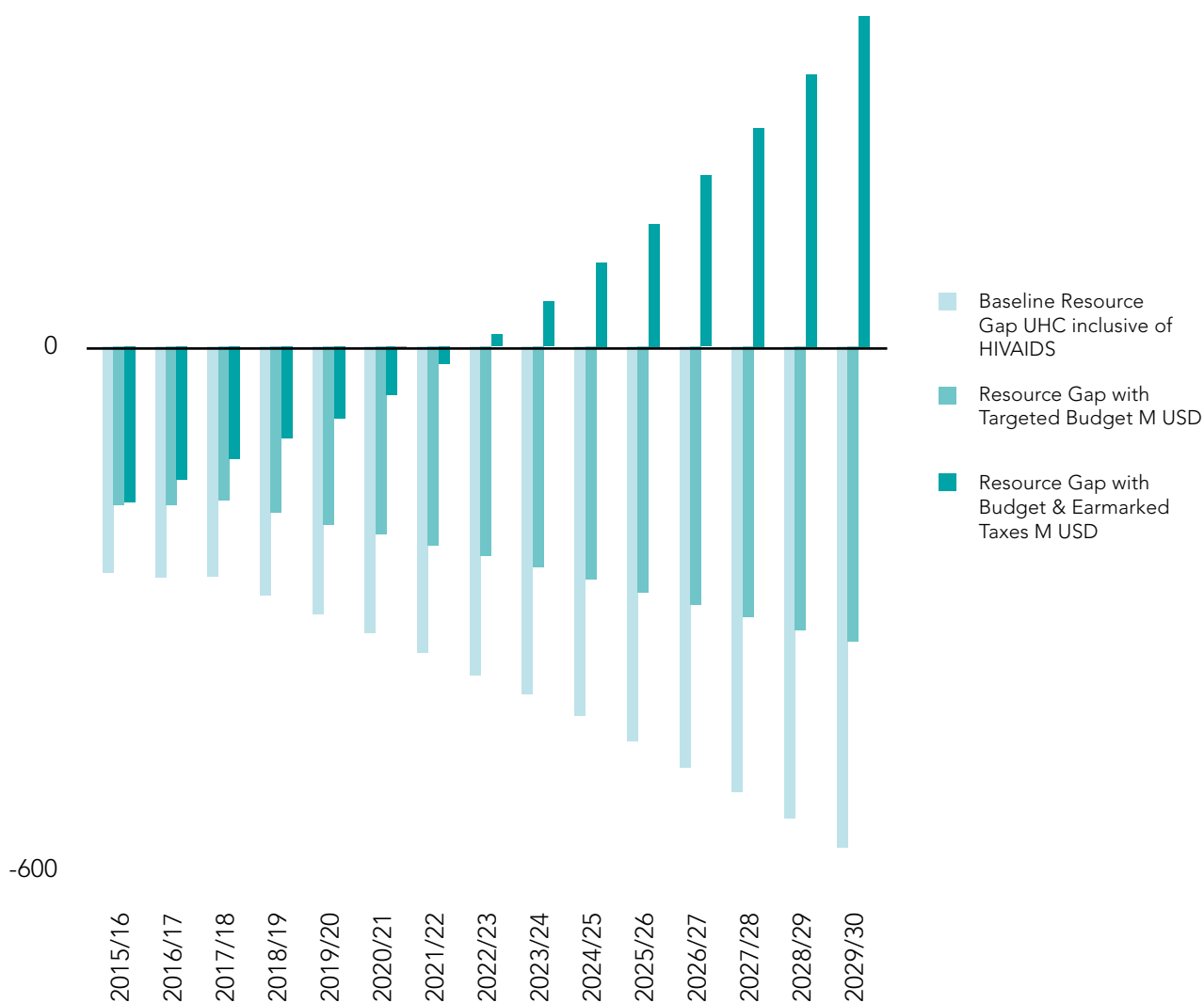
year. The sum of these three measures could close the gap by 2022/23.

**4. Borrowing** – Finally, it can be noted that if gap was to be closed over the full timeframe Mauritius would need to borrow in the near term. From 2015/16 to 2021/22 the borrowing requirements would be just under 100 million per year, 0.6% of GDP.

# F.14

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: MAURITIUS SCENARIO 2 (M USD)

400



## 7.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health is created through redistribution of current resources rather than increased national tax levels then, as the Table 2 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

If the 100 million USD pa were to be borrowed to close the gap in its entirety, this would mean a rise in the Debt: GDP ratio of 0.3 percentage points. Mauritius is projected to have a debt stock of around 46%, whilst this is within the SADC targets (60%), it is out with the sustainable recommendations of IMF (40%). If no new domestic (or development partner) monies can be found concessional borrowing may

be a policy option as the need constitutes a small proportion of GDP and is for a short duration.

## 7.6 Data Issues

The data available for Mauritius allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections. There is a national health system (social security contributions paid shown in the national budget) but no data was found to be reliable enough to use in this model.

For HIV/AIDS the use of a mixture of sources, namely: National Budget; UNGASS; and Global Fund, provided the basis for the expenditure baseline.



# 8 Mozambique

## 8.1 Macro Indicators and Convergence Criteria

Table 8 shows a sub-set of key macroeconomic indicators for Mozambique resulting from the financing gap model. These show that Mozambique has a good outlook for strong growth levels and inflation could fall to meet SADC

criteria of 3% by 2024/25, averaging 4.5% over the longer term. The Governments' Fiscal Deficit is projected to remain out with the SADC criteria and Public Debt – although within the SADC criteria - is projected to remain sizable at 42% of GDP. The IMF's latest Debt Sustainability Analysis places Mozambique as a country with "moderate risk of debt distress"<sup>32</sup>.

# T.8

## MODEL PROJECTIONS FOR MOZAMBIQUE COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	7.3%	7.0%	-
Nominal GDP Growth	-	-	14.2%	11.5%	-
GDP per capita (USD)	-	-	542	1,286	-
Inflation (Annual Change)	5%	3%	6.9%	4.5%	-
Fiscal Deficit (+/- 1%)	3%	3%	-4.5%	-4.5%	-
Tax Burden**	-	-	19.2%	22.2%	22.6%
Public Debt (% GDP)	60%	60%	42.3%	36.8%	53.1%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

GDP per capita is expected to grow from around 600 USD in 2014/15 to almost 2,000 in 2029/30. This is a movement up from low income to middle income status over the time period – as such all macroeconomic indicators

have been targeted to meet middle income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

<sup>32</sup> IMF Country Report No. 13/200 (Jul 2013) 'Republic of Mozambique Staff Report for the 2013 Article IV Consultation'.

## 8.2 Current Situation in Health and HIVAIDS

Using the World Health Organisation (WHO) data for 2008/09 – 2011/12 the Health sector in Mozambique is highly donor dependant with around 65% being provided by international funding. Private companies account for around 17% and Households Out of Pocket Expenditures for 6% of health expenditure. The Government provides 12% of Total Health Expenditure, and allocation from the national budget is low at 2%. There national health insurance (social security) has been growing rapidly and stood at a third of government health expenditures in 2011/12.

For HIV/AIDS the NASA 2007/08 report showed that funding was highly dependent on donors – 96%. Government levels of expenditure are low 0.2% of the National Budget. The Domestic Investment Priority Index (DIPI) for 2008/09 at 0.001 which is very low in comparison to the SADC region where the average was 0.5 (average 2008/09 –

2012/13)<sup>33</sup>. The Resch measure for comparable investment in HIVAIDS sits at 0.3, again low compared to the SADC average of 1.1 over the baseline period<sup>34</sup>.

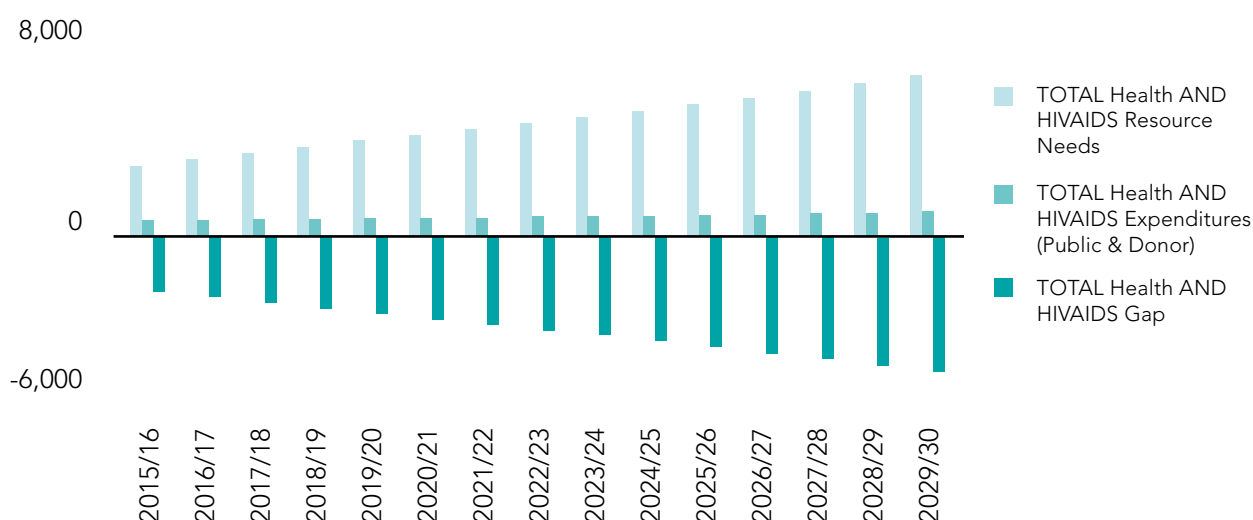
## 8.3 Resource Gap

Scenario 1: Business as Usual – Mozambique’s health needs are set at 86 USD per capita, and HIVAIDS needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 15 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- UHC inclusive of HIVAIDS resource needs are underfunded by around 3.7 billion USD pa if the status quo continues.
- This equates to 9% of GDP or 28% of the national budget.

# F.15

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: MOZAMBIQUE SCENARIO 1 (M USD)



<sup>33</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>34</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.



**Scenario 2: Innovative Action** – Mozambique takes action to alleviate the resource gap by raising Government Expenditure on Health to 12% (as per middle income country health expenditure in SADC). In parallel the government would raise the share of health expenditure to HIVAIDS to 0.5<sup>35</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

## 8.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for health and HIVAIDS. To offset this and overcome the resource gap four options were examined, these are discussed below and shown in Figure 16:

**1. Increased Government Budget Allocation** – To overcome this gap current government funding to the health sector would need to greatly increase from the current 2% allocated to health (to reach 12% - as per middle income peers). The DIPI Resch measure would need to rise from 0.3 to 0.5 over the same time period. With a greater government commitment to Health and HIVAIDS financing over the next

fifteen years UHC could gain from 1.8 billion USD pa over the time period. This would not be enough to close the gap and so other alternative funding options are required.

**2. Alternative Sources** – The remaining gap can be partially closed by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 232 million USD a year to the sector. This equates to an average of 0.4% of GDP.

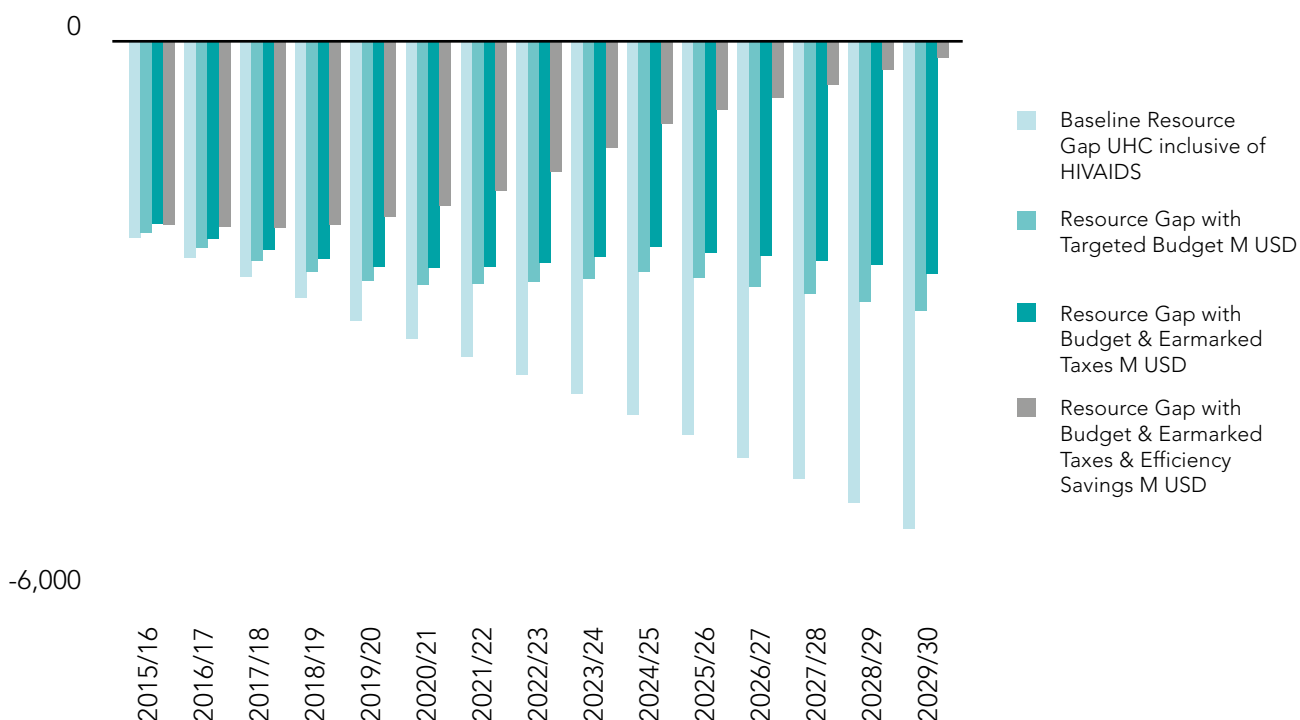
**3. Efficiency** – If Mozambique implemented efficiency measure they could save 1.1 billion USD pa on the cost of services. This equates to 2.2% of GDP, or 7% of the national budget.

**4. Borrowing** – Finally, it is projected that some accumulation of debt is necessary to meet the UHC needs for Mozambique. Initially borrowing needs are projected at 2 billion USD a year in the near term and falling once the new expenditure, taxation and efficiency measures take effect, reaching 180 million by 2029/30. Over the entire period this would constitute 16% of GDP.

<sup>35</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.

# F.16

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: MOZAMBIQUE SCENARIO 2 (M USD)



### 8.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health is created through redistribution of current resources rather than increased national tax levels then, as the Table 2 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

However, with respect to the possible borrowing for UHC, the IMF have just raised Mozambique’s debt risk from low to moderate and so it may not be advisable to take on extra debt at this point. The model projects that Mozambique would remain within Debt: GDP sustainable levels as per SADC 60% target but it is projected to rise above the IMF recommendation of 40% in the medium term. If the remaining resource gap was to be closed in its entirety (after other domestic funding

actions) the Debt: GDP ratio could rise to 53% over the time period. Given the longitudinal nature of the borrowing requirement, and the burden on the economy, borrowing may not be a suitable policy option for Mozambique. If any borrowing was undertaken concessional borrowing ought to be a priority.

### 8.6 Data Issues

The data available for Mozambique allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

For HIV/AIDS there was little up to date data available. The model used the NASA 2007/08 report.



## 9 Namibia

### 9.1 Macro Indicators and Convergence Criteria

Table 9 shows a sub-set of key macroeconomic indicators for Namibia resulting from the financing gap model. Growth and inflation in Namibia are projected to move towards the SADC criteria over the next fifteen years.

The Governments' Fiscal Deficit is expected to reduce to fall within acceptable SADC boundaries and Public Debt is falling and well below the SADC criteria. The IMF's latest Debt Sustainability Analysis states that Namibia is in a sustainable debt position but that there are factors pressuring the rise of debt that should be mitigated<sup>36</sup>.

## T.9

### MODEL PROJECTIONS FOR NAMIBIA COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	4.4%	4.2%	-
Nominal GDP Growth	-	-	10.3%	8.6%	-
GDP per capita (USD)	-	-	5,506	9,230	-
Inflation (Annual Change)	5%	3%	5.8%	4.5%	-
Fiscal Deficit (+/- 1%)	3%	3%	-4.8%	-1.4%	-
Tax Burden**	-	-	29.4%	31.5%	31.8%
Public Debt (% GDP)	60%	60%	26.0%	21.6%	21.8%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>36</sup> IMF Country Report No. 12/14 (Feb 2012) 'Namibia 2011 Article IV Consultation'.



GDP per capita is expected to grow from around 5,500 USD in 2014/15 to more than 13,000 in 2029/30. This is a movement up from middle income to high income status over the time period – as such all macroeconomic indicators have been targeted to meet high income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

## 9.2 Current Situation in Health and HIVAIDS

The World Health Organisation (WHO) data for 2008/09 – 2011/12 shows the Government funding 40% of the Health Expenditures, and donors account for 15%. Households Out of Pocket Expenditures account for just less than 8% of health expenditure whilst private companies fund 35%. The private health insurance sector is large in Namibia accounting for the majority of private company funding. Namibia also has a national health insurance which accounts for 2.5% of the Government spending on health. From the National Budget allocation to health has been around 10%.

The NASA 2009/10 and 2010/11 reports shows that the HIVAIDS expenditures are split between the Government and Donors. The Government provides slightly more than half which equates to 4% of the National Budget. The Domestic Investment Priority Index (DIPI) stands at 0.2 which is lower than the SADC regional average of 0.5 (average 2008/09 – 2012/13)<sup>37</sup>. The Resch measure for comparable investment

in HIVAIDS sits at 1.7, which is greater than the SADC average of 1.1 over the baseline period<sup>38</sup>.

## 9.3 Resource Gap

**Scenario 1: Business as Usual** – Namibia's health needs are set as equal to the current levels of expenditure – this is because Namibia already spends more than 86 USD per capita and 5% of GDP on Health (300 USD in 2011/12, and 9% of GDP, respectively). The HIVAIDS resource needs are provided by UNAIDS. Within this scenario it is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 17 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- UHC inclusive of HIVAIDS resource needs are underfunded by an average of 364 million USD pa if the status quo continues.
- This equates to 1.5% of GDP and 4.6% of the national budget over the fifteen years.

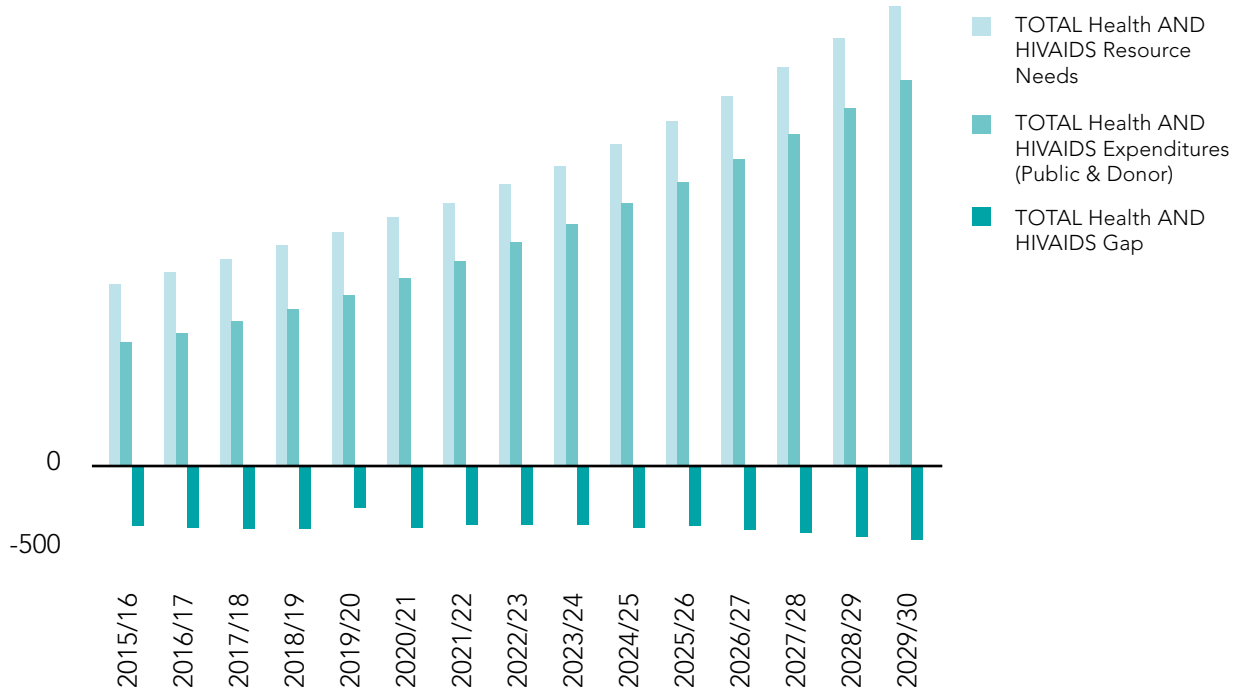
What do these findings mean? By the targets we are using in this model technically Namibia should have enough funds to cover the combined UHC and HIVAIDS resource gap. However, it does not necessarily mean all needs are covered, just that 'theoretically' they could be depending on the distribution of resources. Moreover, if there were changes to priority needs in Namibia there is much fiscal space to utilise to increase the services offered in Namibia.

<sup>37</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>38</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: NAMIBIA SCENARIO 1 (M USD)

3,000



**Scenario 2: Innovative Action** – Since public spending on health and HIVAIDS is projected to grow to levels to sustain needs in this second scenario we look only at earmarked funds and efficiency savings.

are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 138 million USD a year to the sector. This equates to an average of 0.4% of GDP.

### 9.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for Health and HIVAIDS. To offset this and overcome the resource gap domestic financing options were examined, these are discussed below and shown in Figure 18:

**1. Alternative Sources** – To reduce the gap new alternative sources of funding may be used. These specific taxation measures where revenues

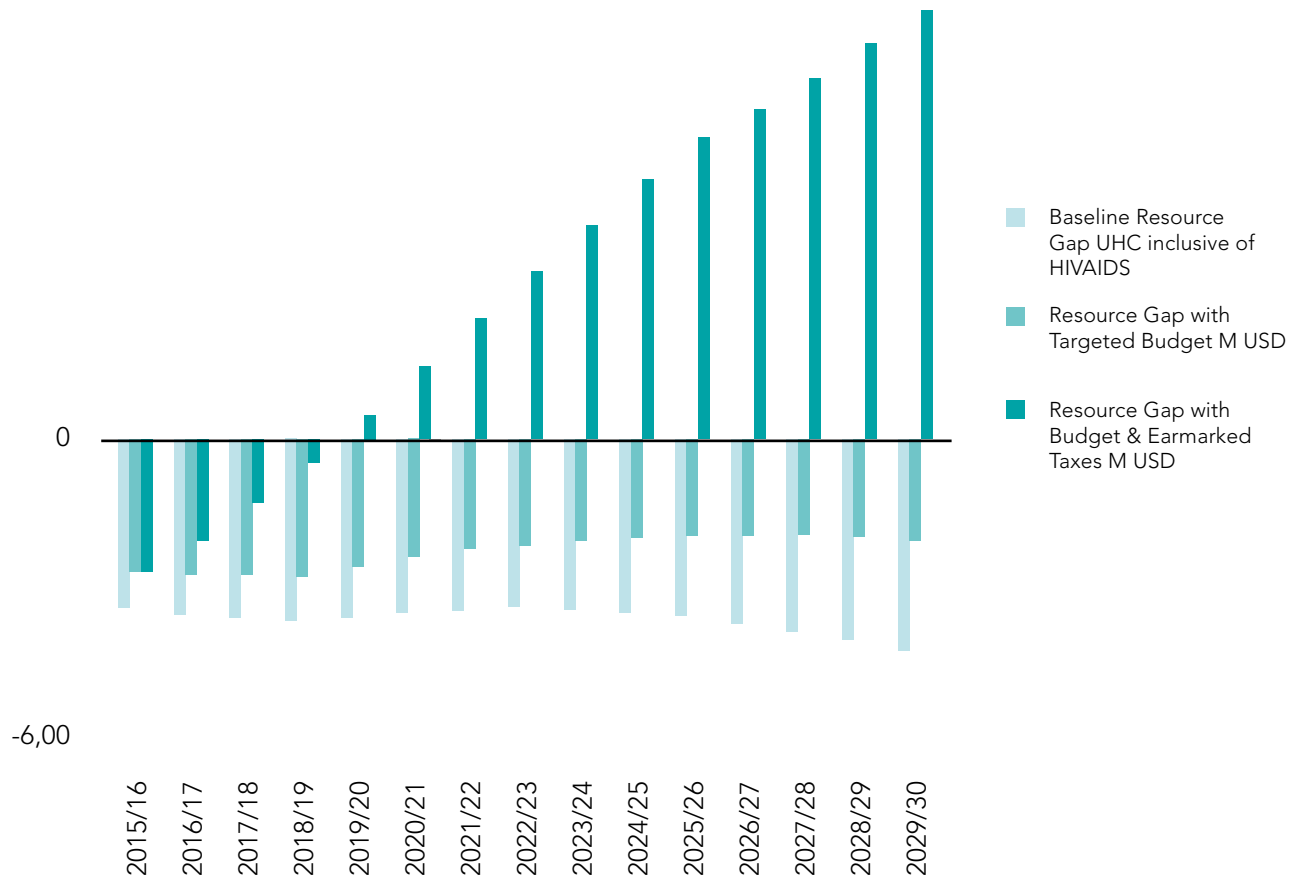
**2. Efficiency** – If Namibia implemented efficiency measure they could save 549 million USD pa on the cost of services. This equates to 2% of GDP, or almost 6% of the national budget. Together these two policy actions can close the gap by 2019/20.

**3. Borrowing** – In the near term to fully close the gap 157 million USD would need to be borrowed each year from 2015/16 to 2019/20. This would amount to 1.1% of GDP on average over the four years.

# F.18

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: NAMIBIA SCENARIO 2 (M USD)

1,000



### 9.5 Fiscal and Macro Implications

As Table 9 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

If the 157 million USD pa were to be borrowed to close the gap in its entirety, this would mean a rise in the Debt: GDP ratio of 0.3 percentage points. Namibia is projected to have a debt stock of around 22% of GDP, which is within both the SADC (60%) and IMF (40%) advised limits. If no new domestic (or development partner) monies can be found concessional borrowing may

be a policy option as the need constitutes a small proportion of GDP and is for a short duration.

### 9.6 Data Issues

Data available for Namibia allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

HIV/AIDS analysis used the NASA 2009/10 and 2010/11 report.



# 10 Seychelles

## 10.1 Macro Indicators and Convergence Criteria

Table 10 shows a sub-set of key macroeconomic indicators for the Seychelles resulting from the financing gap model. The Seychelles are projected to grow along the lines of the SADC growth target and inflation

is low meeting the target over the next fifteen years. The Governments' Fiscal Deficit is within acceptable boundaries, and Public Debt is falling to within the SADC criteria. The IMF's latest Debt Sustainability Analysis states that the Seychelles is committed to reducing its debt and that debt does not pose a high risk<sup>39</sup>.

## T.10 MODEL PROJECTIONS FOR SEYCHELLES COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	4.1%	4.3%	-
Nominal GDP Growth	-	-	7.7%	7.4%	-
GDP per capita (USD)	-	-	12,475	24,287	-
Inflation (Annual Change)	5%	3%	3.4%	3.0%	-
Fiscal Deficit (+/- 1%)	3%	3%	2.5%	0.3%	-
Tax Burden**	-	-	31.8%	32.7%	33.0%
Public Debt (% GDP)	60%	60%	74.0%	47.7%	47.8%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>39</sup> IMF Country Report No. 13/202 (Jul 2013) 'Seychelles 2013 Article IV Consultation'.

GDP per capita is expected to grow from around 14,000 USD in 2014/15 to more than 37,000 in 2029/30. This is a movement upwards within the high income country status over the time period – as such all macroeconomic indicators have been targeted to meet high income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

## 10.2 Current Situation in Health and HIVAIDS

The World Health Organisation (WHO) data for 2008-09 – 2011/12 shows that the Government finances the majority of health expenditures; 85%. Donors contribute 7%, Households Out of Pocket 5% and Private Companies 3%. There is a national health insurance system which accounts for only 3% of Government Expenditure on Health. The Private Health Insurance Sector is also small accounting for only 1% of total health expenditures. From the National Budget allocation to health is 8%.

The UNAIDS UNGASS 2014 report was used for the years 2010/11 to 2012/13. This shows that the government contributes more than 90% of the total HIVAIDS expenditures in Seychelles – additionally there is a 1 million USD earmarked trust fund paid by the government each year. The Domestic Investment Priority Index (DIPI) stands at 10 which is very high in comparison to the SADC region where the average was 0.5 (average 2008/09 – 2012/13)<sup>40</sup>. The Resch measure for comparable investment

in HIVAIDS sits at almost 7, again high compared to the SADC average of 1.1 over the baseline period<sup>41</sup>.

## 10.3 Resource Gap

**Scenario 1: Business as Usual** – Seychelles' lower level health needs are set at 5% of GDP. UNAIDS has no resource needs for HIVAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 19 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- UHC needs are underfunded by 16 million USD pa if the status quo continues.
- This equates to 0.7% of GDP, or 1.9% of the national budget.

Note this representation is an underrepresentation of the size of the resource gap for Seychelles as the HIVAIDS resource needs are not included. This actually represents the UHC needs only, against UHC available expenditures inclusive of HIVAIDS available expenditures.

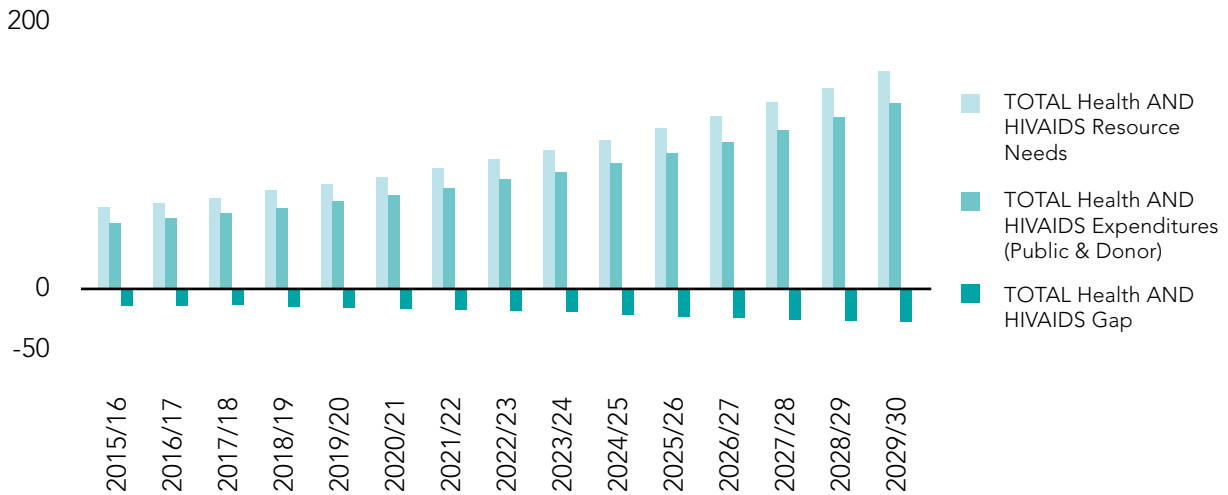
If we assumed that the minimum underrepresentation is in line with the amount currently being spent on HIVAIDS. This is projected to be 8 million USD a year over the 15 year period. This would make the resource gap increase by a third to 24 million USD a year. This is simply conjecture and has not been included in the framework.

<sup>40</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>41</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.



## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: SEYCHELLES SCENARIO (M USD)



**Scenario 2: Innovative Action** – Seychelles takes action to alleviate the resource gap by raising Government Expenditure on Health to 9% (as per high income country health expenditure in SADC)<sup>42</sup>. In parallel the government would raise the share of health expenditure to HIVAIDS to 0.543. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

### 10.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for health and HIVAIDS. To offset this and overcome the gap four options were examined, these are discussed below and shown in Figure 20 Figure 2:

**1. Increased Government Budget Allocation** – To overcome this gap current government funding to the health sector would need to increase from the current 8% allocated to health (to reach 15%). With a greater government commitment to

health financing over the next fifteen years Seychelles could gain from an additional 88 million USD a year. This would be not be sufficient to close the gap and so other alternative funding options are required.

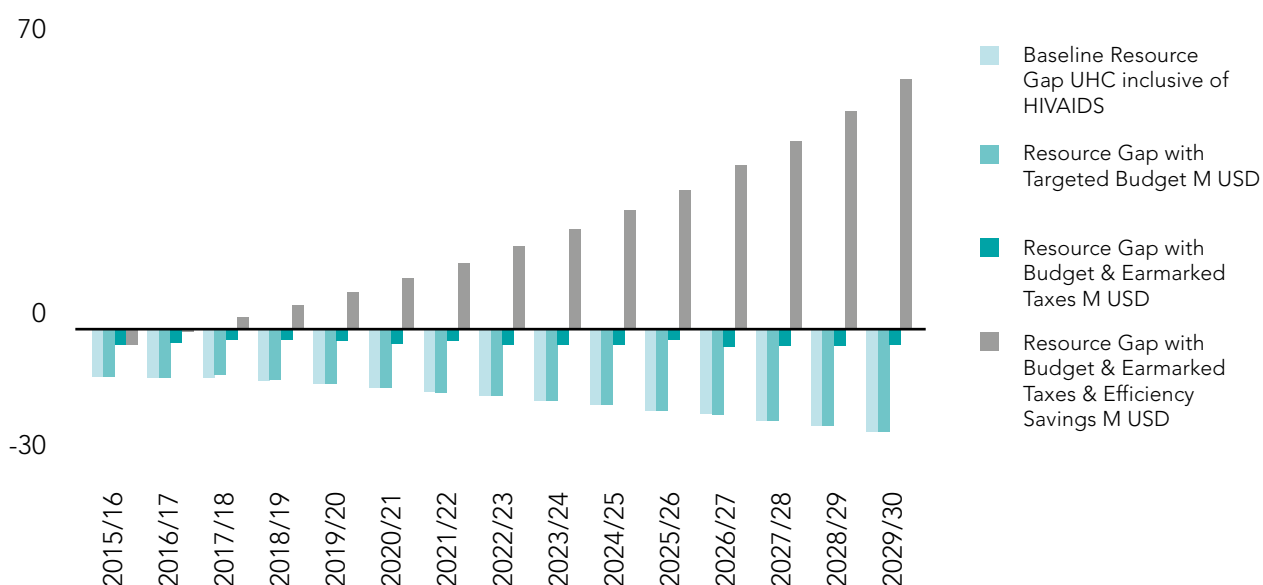
- Alternative Sources** – The remaining gap can be partially closed by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 13 million USD a year to the sector. This equates to an average of 0.4% of GDP.
- Efficiency** – If the Seychelles implemented efficiency measure they could save from 26 million USD pa on the cost of services. This equates to 1% of GDP, or 2.6% of the national budget. If these were planned and carried out well the savings from efficiency gains would reduce the resource needs to a level where, there resource gap could be closed in the short term.
- Borrowing** – Finally, It is projected that some accumulation of debt is necessary

to close the gap in 2015/16. This would be around 4 million USD, which is 0.2% of GDP.

Note: If the additional HIVAIDS resource needs were include – a minimum of an

additional 8 million USD a year – the gap could be closed by 2019/20 with the three financing polices mentioned. This would raise the borrowing requirement from one year to four years at an average level of 7 million USD a year.

## F.20 PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: SEYCHELLES SCENARIO 2 (M USD)



Note: HIVAIDS resource needs were not available for the Seychelles from UNAIDS. This resource gap is inclusive of both HIVAIDS and Health expenditures but not the level of resource needs for HIVAIDS; i.e. the gap is an under-representation of the resource requirements.

### 10.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health is created through redistribution of current resources rather than increased national tax levels then, as the Table 2 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

However; if Seychelles wanted to close the gap in its entirety they would need to borrow 4 million USD in 2015/16. The small

borrowing needs projected here would result in a Debt: GDP ratio (47.8% pa average) within sustainable levels as per the SADC 60% target, but it brings the ratio outside the IMF recommendation of 40%. Therefore any policy consideration on borrowing should be make concessional borrowing a priority.

### 10.6 Data Issues

Data availability for the Seychelles allowed for the general macro modelling methodology to be applied; i.e. the WHO



Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

For HIV/AIDS data was taken from the UNGASS report. However, no data was available for the resource needs from UNAIDS. Also there was

no data available on DALYs – total and those attributable to HIV/AIDS. Therefore, a proxy was used based on the SADC prevalence to DALY relationship and then estimated from the Seychelles prevalence rate. Given this lack of data the findings for Seychelles should be considered as a draft.



# 11 South Africa

## 11.1 Macro Indicators and Convergence Criteria

Table 11 shows a sub-set of key macroeconomic indicators for South Africa resulting from the financing gap model. These show that South Africa has the potential for a growth rate slightly less than the SADC targets and a low

inflation rate. The Governments' Fiscal Deficit must fall to come within acceptable SADC boundaries and Public Debt is somewhat high but below the SADC criteria. The IMF's latest Debt Sustainability Analysis states that South Africa's debt is manageable but measures should be taken to ensure stability over the medium term<sup>44</sup>.

### T.11

## MODEL PROJECTIONS FOR SOUTH AFRICA COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	2.8%	5.0%	-
Nominal GDP Growth	-	-	9.2%	9.2%	-
GDP per capita (USD)	-	-	7,203	13,501	-
Inflation (Annual Change)	5%	3%	5.3%	4.1%	-
Fiscal Deficit (+/- 1%)	3%	3%	-4.5%	-0.5%	-
Tax Burden**	-	-	25.8%	29.3%	29.7%
Public Debt (% GDP)	60%	60%	34.3%	46.8%	46.8%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

GDP per capita is expected to grow from around 7,000 USD in 2014/15 to more than 22,000 in 2029/30. This is a movement up from middle income to high income status over the time period – as such all

macroeconomic indicators have been targeted to meet high income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

<sup>44</sup> IMF Country Report No. 13/303 (Oct 2013) 'South Africa 2013 Article IV Consultation'.



## 11.2 Current Situation in Health and HIVAIDS

The World Health Organisation (WHO) data for 2008/09 – 2011/12 shows the Health sector in South Africa to be financed largely through private companies – covering 46% of the total health expenditures. This is mostly private health insurance. The government accounts for 45% of expenditures, donors 2% and Households Out of Pocket Expenditures account for 8%. The national health insurance system is small and accounts for 3% of government health expenditures. From the National Budget allocation to health sits at around 12%.

For HIV/AIDS the UNGASS 2012 report show 75% of funding being sourced from government. Just less than 20% comes from donors. The Government spending on HIV/AIDS accounts for 1.2% of the National Budget, and total spending on HIVAIDS equates to 0.5% of GDP. The Domestic Investment Priority Index (DIPI) stands at 0.002 which is very low in comparison to the SADC region where the average was 0.5 (average 2008/09 – 2012/13)<sup>45</sup>. The Resch measure for comparable investment in HIVAIDS sits at 0.3, again low compared to the SADC average of 1.1 over the baseline period<sup>46</sup>.

## 11.3 Resource Gap

**Scenario 1: Business as Usual** – South Africa's health needs are set as equal to the current levels of expenditure – this is because South Africa already spends more than 86 USD per capita and 5% of GDP on Health (300 USD in 2011/12). HIVAIDS resource needs are provided by UNAIDS. Within this scenario it is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 21 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

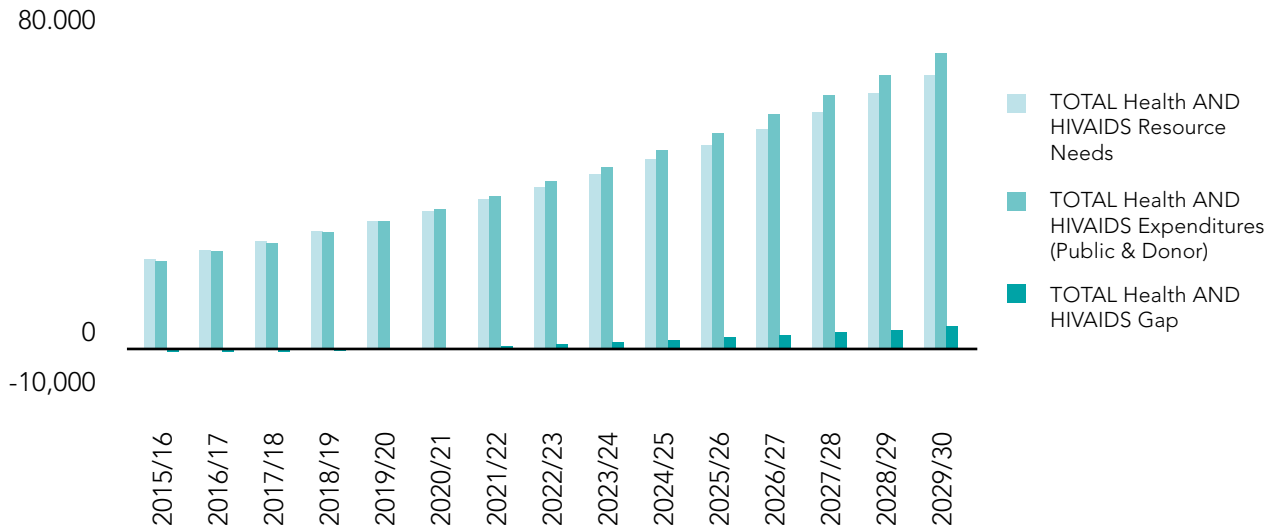
- Combined UHC and HIVAIDS resource needs should be able to be funded from the current levels of health expenditure in South Africa, however the allocation to HIVAIDS is insufficient as a financing gap is found.
- The financing gap averages 1.8 billion USD pa over the fifteen years. This equates to 0.2% of GDP, and 0.6% of national budget.

<sup>45</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>46</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

# F.21

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: SOUTH AFRICA SCENARIO 1 (M USD)



**Scenario 2: Innovative Action** – Assuming the current budget share to health is sufficient (as mentioned) the government should raise the share of health expenditure to HIVAIDS to 0.5<sup>47</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

### 11.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for health and HIVAIDS. To offset this and overcome the resource gap four options were examined, these are discussed below and shown in Figure 22:

**1. Increased Government Budget Allocation** – If South Africa raises its share of health expenditure to HIVAIDS from the

current 0.3 to 0.5 (Resch ‘fair share’) an extra 53 million USD could be spent on HIVAIDS per year over the next fifteen years. This would entirely remove the combined resource gap hinting that the allocation within the current system is not optimal.

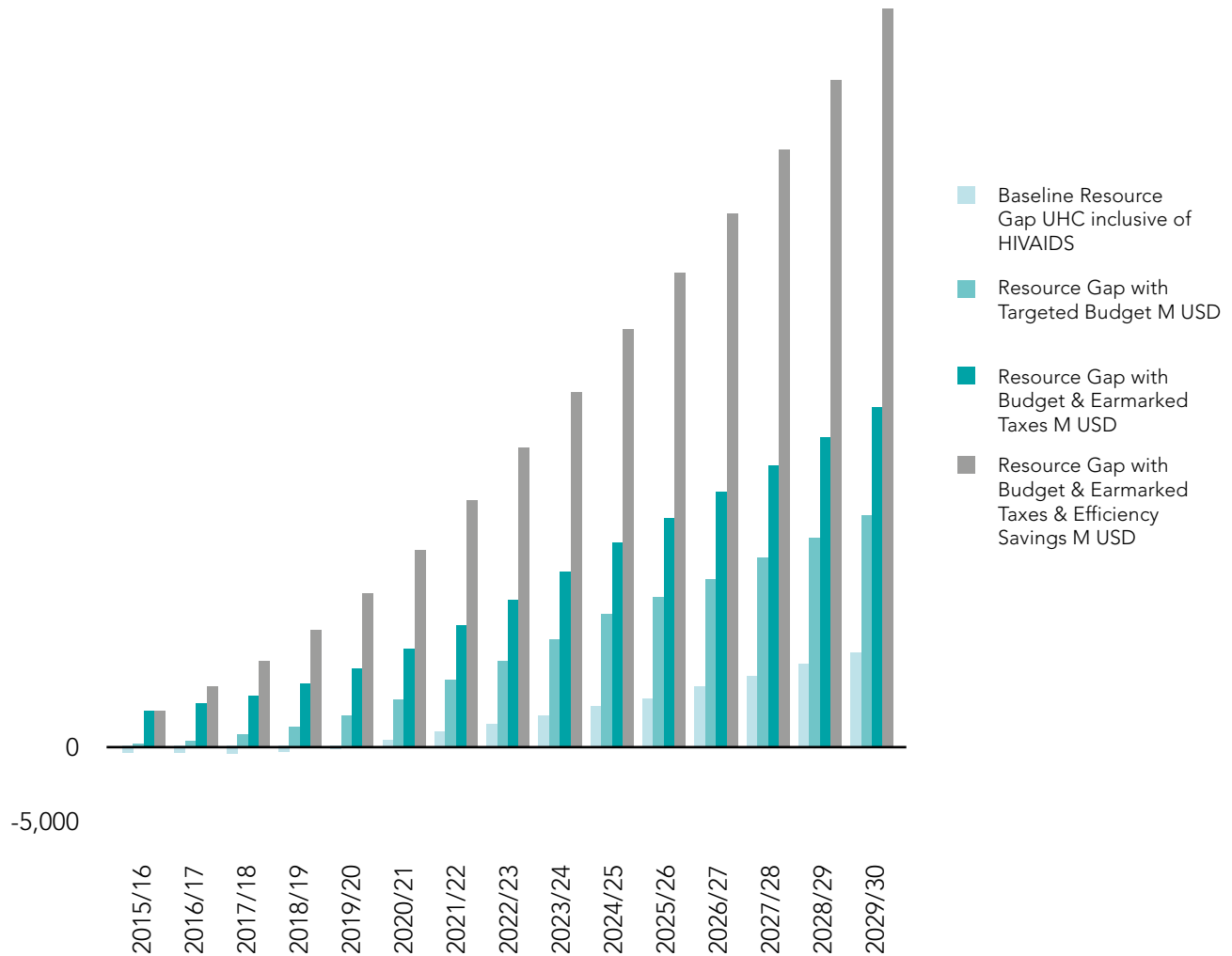
**2. Alternative Sources** – Specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 3.9 billion USD a year to the sector. This equates to an average of 0.4% of GDP.

**3. Efficiency** – If South Africa implemented efficiency measure they could save 10 billion USD pa on the cost of services. This equates to 1.2% of GDP, or 4% of the national budget.

**4. Borrowing** – Finally, no new borrowing needs are projected for South Africa.

<sup>47</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.

50,000



### 11.5 Fiscal and Macro Implications

As Table 2 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

### 11.6 Data Issues

Data availability for South Africa allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

HIV/AIDS analysis used the UNGASS 2012 report.

# 12 Swaziland

## 12.1 Macro Indicators and Convergence Criteria

Table 2 shows a sub-set of key macroeconomic indicators for Swaziland resulting from the financing gap model. The growth rate in Swaziland is subdued over the medium term with a falling inflation rate

but with the right policies could meet the SADC criteria on growth and inflation. The Governments' Fiscal Deficit is low and within acceptable boundaries as is Public Debt. The IMF's latest Debt Sustainability Analysis warns that Swaziland could face a "significant risk of debt distress in the medium term" due to upward pressures on debt levels<sup>48</sup>.

## T.12 MODEL PROJECTIONS FOR SWAZILAND COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	0.3%	2.4%	-
Nominal GDP Growth	-	-	6.9%	6.5%	-
GDP per capita (USD)	-	-	3,097	4,195	-
Inflation (Annual Change)	5%	3%	6.7%	4.1%	-
Fiscal Deficit (+/- 1%)	3%	3%	-0.2%	-3.3%	-
Tax Burden**	-	-	27.8%	28.9%	29.3%
Public Debt (% GDP)	60%	60%	22.6%	28.7%	34.0%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

<sup>48</sup> IMF Country Report No. 12/37 (Feb 2012) 'Kingdom of Swaziland 2011 Article IV Consultation'.



GDP per capita is expected to grow from around 3,000 USD in 2014/15 to almost 6,000 in 2029/30. This is a movement upwards within the middle income country status over the time period – as such all macroeconomic indicators have been targeted to meet middle income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

## 12.2 Current Situation in Health and HIVAIDS

The World Health Organisation (WHO) data for 2008/09 – 2011/12 shows that more than half of all Health expenditures in Swaziland are funded by the government – 55%. Donors contribute 13% as do Households Out of Pocket Expenditures. Private Companies account for around 18% of which a third are registered as Private Health Insurance. There is no mandatory national health insurance. From the National Budget allocation to health sits at around 12%.

For HIVAIDS the UNGASS 2012 report shows 40% of funding from government and 50-60% from donors. The private sector accounts for only 3% of HIVAIDS spending. The government spends about 2% of its national budget on HIVAIDS related expenditures. The Domestic Investment Priority Index (DIPI) stands at 0.1 which is low in comparison to the

SADC region where the average was 0.5 (average 2008/09 – 2012/13)<sup>49</sup>. The Resch measure for comparable investment in HIVAIDS sits at 0.5, again low compared to the SADC average of 1.1 over the baseline period<sup>50</sup>.

## 12.3 Resource Gap

**Scenario 1: Business as Usual** – Swaziland’s health needs are set as equal to the current levels of expenditure – this is because Swaziland already spends more than 86 USD per capita and 5% of GDP on Health (189 USD in 2011/12, and 6% of GDP, respectively). Within this scenario it is assumed that current allocation to HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 23 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

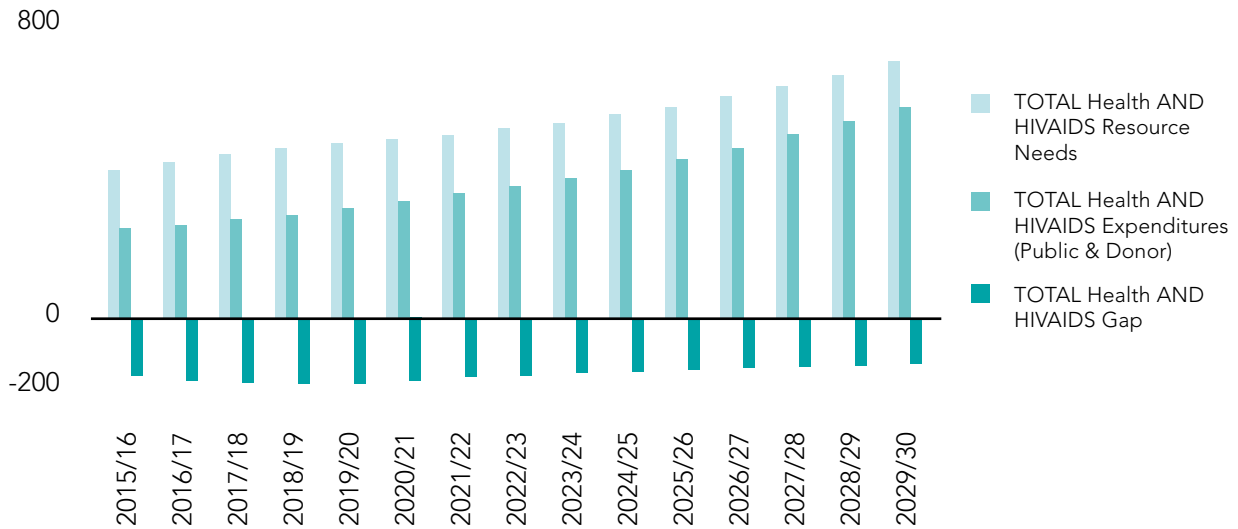
- Combine UHC and HIVAIDS resource needs should be able to be funded from the current levels of expenditure in Swaziland. However, the allocation to HIVAIDS is less than what is considered a ‘fair share’, therefore a financing gap is found.
- The gap is 150 million USD per year over the projection period. This equates to almost 3% of GDP, or 8% of the national budget.

<sup>49</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>50</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

# F.23

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: SWAZILAND SCENARIO 1 (M USD)



**Scenario 2: Innovative Action** – Swaziland could raise the share of health expenditure to HIVAIDS to 0.5<sup>51</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

### 12.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for health and HIVAIDS. To offset this and overcome the resource gap four options were examined, these are discussed below and shown in Figure 24:

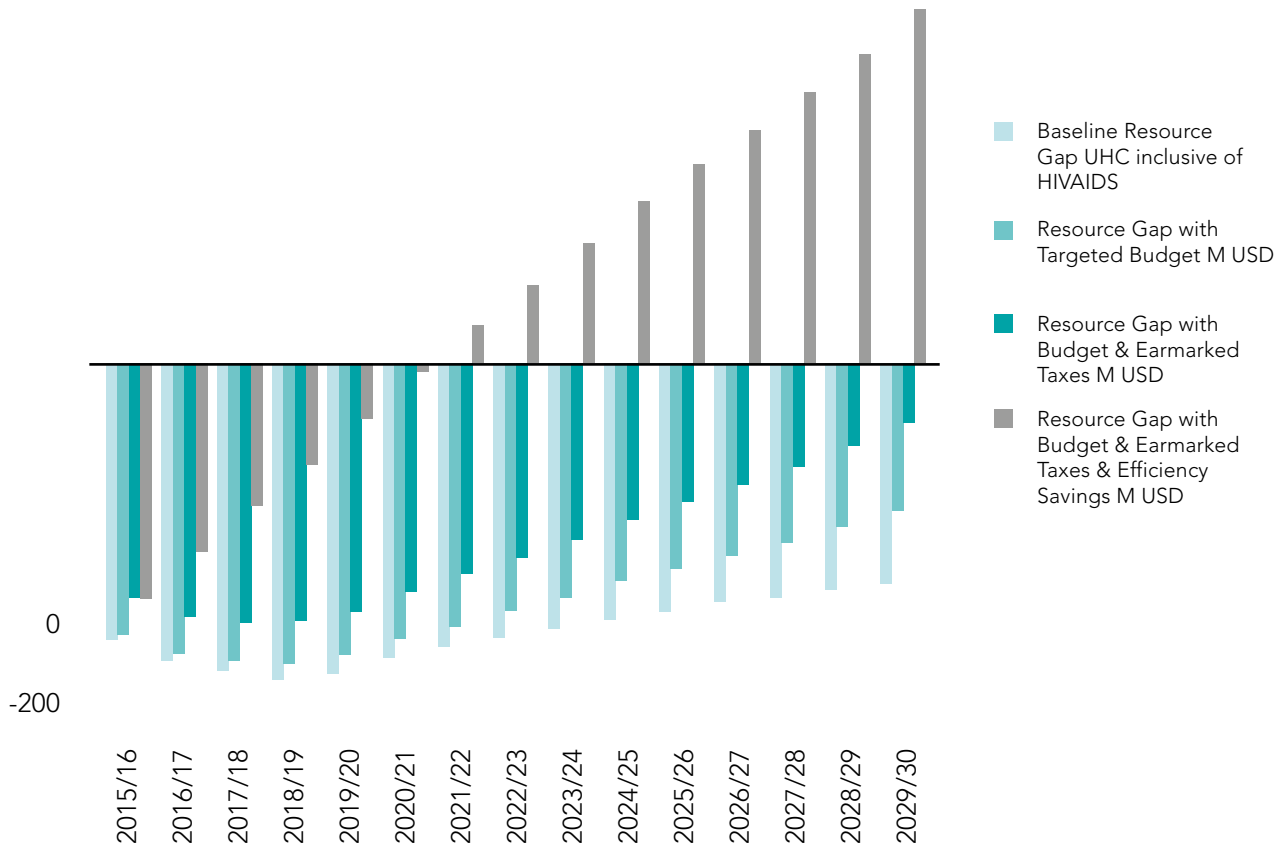
**1. Increased Government Budget Allocation** – Keeping health budget allocation constant but raising the share of health budget going to HIVAIDS could raise an additional 400 million USD per year. But would be insufficient to close the gap.

**2. Alternative Sources** – The gap could be reduced by new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 33 million USD a year.

**3. Efficiency** – If Swaziland implemented efficiency measure they could save 144 million USD pa on the cost of services. This equates to 2.3% of GDP, or 7% of the national budget, and could close the financing gap by 2021/22 (in addition to the budget allocation and earmarked taxes).

**4. Borrowing** – Finally, if Swaziland aimed to remove the gap in its entirety in each year they could raise funds through borrowing. From 2015/16 to 2020/21 an annual average of 69 Million USD would need to be borrowed.

<sup>51</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.



**12.5 Fiscal and Macro Implications**

As Table 12 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

However, if Swaziland chose to borrow to fund their resource gap this would raise the Debt: GDP ratio by 5% - from 29% to 34% on average over the fifteen years. Whilst these levels of debt are not high relative to both the IMF and SADC debt ceilings, the latest IMF Debt Sustainability Analysis states that there is concern over rising debt levels in Swaziland. Therefore this line of action

should be taken with serious consideration, and if debt was considered concessional arrangements ought to be a priority.

**12.6 Data Issues**

Data availability for Swaziland allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

For HIV/AIDS the UNGASS 2012 report was used to create a baseline.



# 13 Tanzania

## 13.1 Macro Indicators and Convergence Criteria

Table 13 shows a sub-set of key macroeconomic indicators for Tanzania resulting from the financing gap model. Tanzania has strong growth projected and declining inflation over the next fifteen years.

The Governments' Fiscal Deficit is projected to decline but will remain outside of the SADC criteria. Public Debt is high and has the potential to grow further, however it will remain within the SADC criteria. The IMF's latest Debt Sustainability Analysis states that Tanzania's 'risk of debt distress remains low' despite this rise in Debt: GDP ratio<sup>52</sup>.

## T.13 MODEL PROJECTIONS FOR TANZANIA COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	5.7%	5.2%	-
Nominal GDP Growth	-	-	15.6%	9.3%	-
GDP per capita (USD)	-	-	601	1,087	-
Inflation (Annual Change)	5%	3%	9.9%	4.1%	-
Fiscal Deficit (+/- 1%)	3%	3%	-5.7%	-4.4%	-
Tax Burden**	-	-	16.1%	20.4%	20.8%
Public Debt (% GDP)	60%	60%	41.4%	43.8%	48.3%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

GDP per capita is expected to grow from 695 USD in 2014/15 to around 1,500 in 2029/30. This is a movement up from low income to middle income status over the time period – as such all macroeconomic

indicators have been targeted to meet middle income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

<sup>52</sup> IMF Country Report No. 13/166 (Aug 2012) 'United Republic of Tanzania: Sixth Review Under the Policy Support Instrument'.

## 13.2 Current Situation in Health and HIVAIDS

The World Health Organisation (WHO) data for 2008/09 – 2011/12 the Health sector in Tanzania is donor dependant with more than 40% being provided by international funding. Households Out of Pocket Expenditures account for 18% of health expenditures and private companies 25% (of which a small proportion is registered as private health insurance). The Government provides around 14% of Total Health Expenditure, 5% of this comes from social security / national health insurance contributions. From the National Budget allocation to health is 3%.

For HIV/AIDS the NASA 2005/06 reports show that Tanzania is donor dependent with 70% of funds being sourced externally. The Government provides a quarter of all funding for HIV/AIDS and levels of expenditure are just less than 4% of the National Budget. The Domestic Investment Priority Index (DIPI) stands at 0.01 which is very low in comparison to the SADC

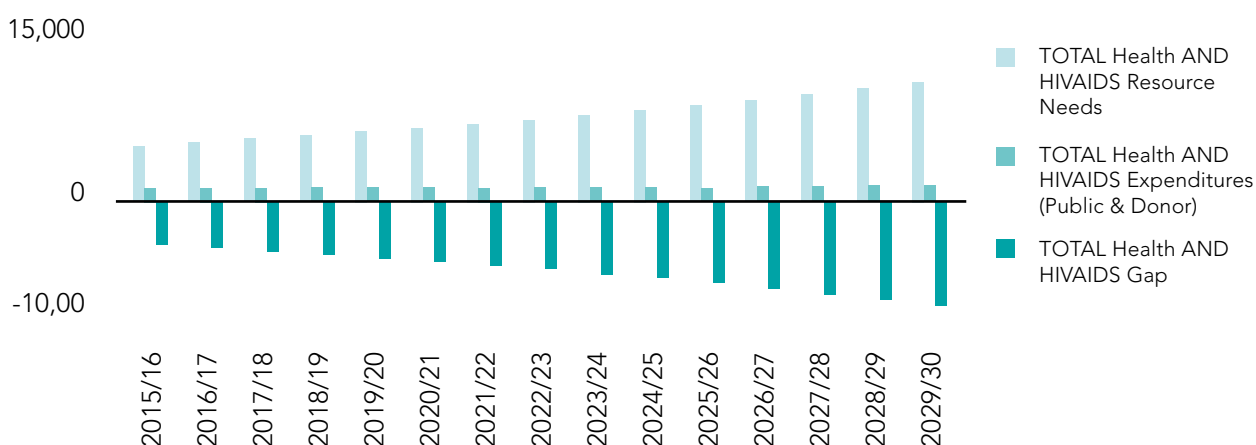
region where the average was 0.5 (average 2008/09 – 2012/13)<sup>53</sup>. The Resch measure for comparable investment in HIVAIDS sits at 2.9, this is high compared to the SADC average of 1.1 over the baseline period<sup>54</sup>.

## 13.3 Resource Gap

**Scenario 1: Business as Usual** – Tanzania’s health needs are set at 86 USD per capita and HIVAIDS resource needs are provided by UNAIDS. It is assumed that current allocation to HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 25 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- UHC inclusive of HIVAIDS resource needs are underfunded by 6.4 billion USD pa if the status quo continues.
- This equates to 9% of GDP or 32% of the national budget.

# F.25 PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: TANZANIA SCENARIO 1 (M USD)



<sup>53</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>54</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

**Scenario 2: Innovative Action** – Tanzania takes action to alleviate the financing gap by raising Government Expenditure on health to 12% (as per top tier middle income country health expenditure in SADC). The government already contributes more than the estimated ‘fair share’ to HIVAIDS from health expenditure – a ratio of 3 as compared to the minimum suggested 0.5<sup>55</sup>. The health expenditure rise would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

### 13.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for health and HIVAIDS. To offset this and overcome the resource gap four options were examined, these are discussed below and shown in Figure 2:

**1. Increased Government Budget Allocation** – To overcome this gap current government funding to the health sector would need to rise significantly from the current 3% allocated to health (to reach 12%).

The allocation to HIVAIDS within the current allocation is seen as above the Resch ‘fair share’ measure and so remains over the projection period. The rise in general health expenditure from the government could bring an average of 2.7 billion USD to assuming the allocation within Health to HIVAIDS remains constant.

**2. Alternative Sources** – The remaining gap can be partially closed by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 385 million USD a year to the sector. This equates to an average of 0.4% of GDP.

**3. Efficiency** – If Tanzania implemented efficiency measure they could save 1.8 billion USD pa on the cost of services. This equates to 2.4% of GDP, or 8.5% of the national budget.

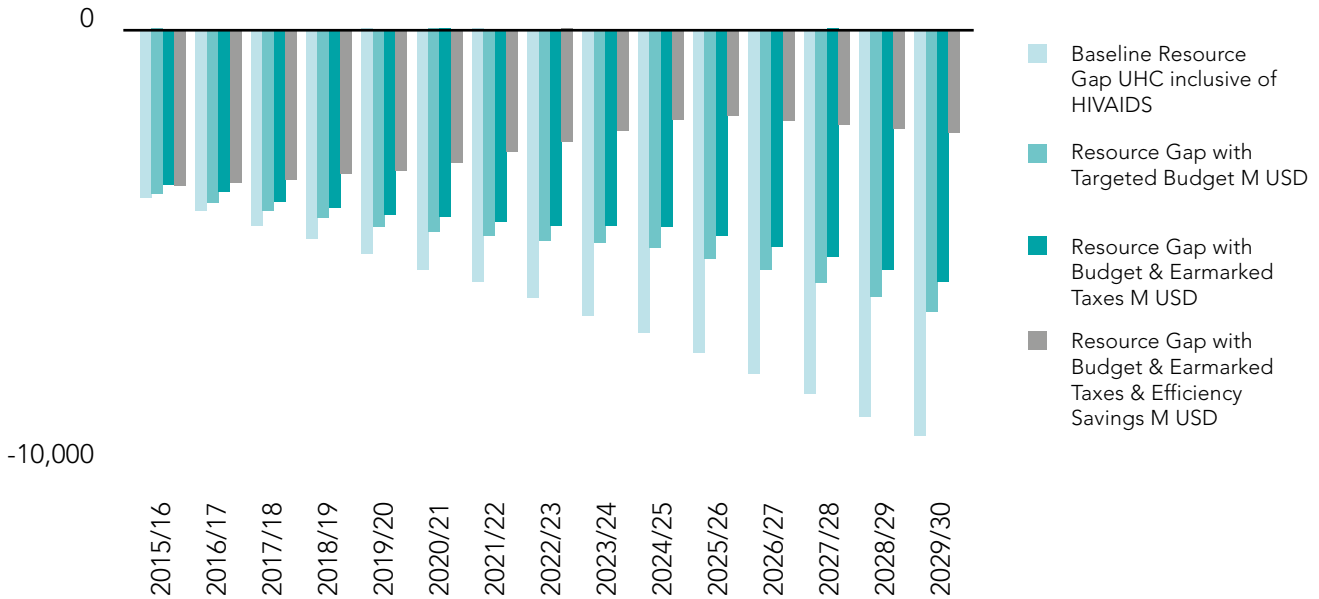
**4. Borrowing** – To close the gap in its entirety borrowing would be required each year at an average of 2.7 billion USD. This would be 4.5% of GDP a year over the fifteen year period.

<sup>55</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.



# F.26

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: TANZANIA SCENARIO 2 (M USD)



### 13.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health and HIVAIDS is created through redistribution of current resources rather than increased national tax levels then, as Table 13 above shows, there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

The increased borrowing needs would raise the Debt: GDP ratio by 4.5 percentage points from 44% to 48% over the projection period. This remains within the SADC limits but out with the IMF suggested sustainability levels. For Tanzania borrowing would be a long term investment – required each year for fifteen years. As such it may not be the optimal policy choice for financing UHC with HIVAIDS. If borrowing was a policy

consideration concessional debt would need to be a priority as the country is moderately at risk of debt distress.

### 13.6 Data Issues

The Tanzania model used both the WHO Global Health Expenditure Database data (2008/09 to 2011/12) and a recent Health Public Expenditure Review covering 2010/11 as a basis for trend projections.

However, for HIV/AIDS the only data available was the NASA 2005/06 report, and so the government data is not as up to date as one would wish. For donor contributions the model uses the National Multi-Sectoral HIV/AIDS Strategy 2012/13 – 2017/18 which includes data on historic trends for PEPFAR and Global Fund disbursements (2009/10 – 2012/13).

# 14 Zambia

## 14.1 Macro Indicators and Convergence Criteria

Table 14 shows a sub-set of key macroeconomic indicators for Zambia resulting from the financing gap model. The next fifteen years are projected to have strong

growth and declining inflation. However, the Governments' Fiscal Deficit could continue to be outside of the SADC convergence target. Although Public Debt is expected to rise it remains within the SADC criteria. The IMF's latest Debt Sustainability Analysis states that Zambia is at 'low risk of debt distress'<sup>56</sup>.

### T.14 MODEL PROJECTIONS FOR ZAMBIA COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	8.6%	5.3%	-
Nominal GDP Growth	-	-	16.1%	9.8%	-
GDP per capita (USD)	-	-	1,472	2,734	-
Inflation (Annual Change)	5%	3%	7.5%	4.5%	-
Fiscal Deficit (+/- 1%)	3%	3%	-5.1%	-4.1%	-
Tax Burden**	-	-	14.2%	21.7%	22.1%
Public Debt (% GDP)	60%	60%	26.2%	40.6%	42.6%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

GDP per capita is expected to grow from around 1,600 USD in 2014/15 to 3,900 in 2029/30. This is a movement up the middle income country status over the time period – as such all macroeconomic

indicators have been targeted to meet middle income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS.

<sup>56</sup> IMF Country Report No. 14/5 (Jan 2014) 'Zambia 2013 Article IV Consultation'.



## 14.2 Current Situation in Health and HIVAIDS

The World Health Organisation (WHO) data for 2008/09 – 2011/12 the Health sector in Zambia is funded by 24% from the government, 35% by donors, 27% by Households Out of Pocket Expenditures, and 13% from private companies. There is no mandatory national health insurance and private health insurance accounts for only 1.5% of total health expenditure. From the National Budget allocation to health is around 6% over this period.

For HIVAIDS the NASA 2005/06 reports show high donor dependency in the financing of HIVAIDS – 90%. The Government provides 7% of funding for HIVAIDS, which equates to 0.5% of the National Budget. The Domestic Investment Priority Index (DIPI) stands at 0.01 which is very low in comparison to the SADC region where the average was 0.5 (average 2008/09 – 2012/13)<sup>57</sup>. The Resch measure for comparable investment in HIVAIDS sits

at 0.4, again low compared to the SADC average of 1.1 over the baseline period<sup>58</sup>.

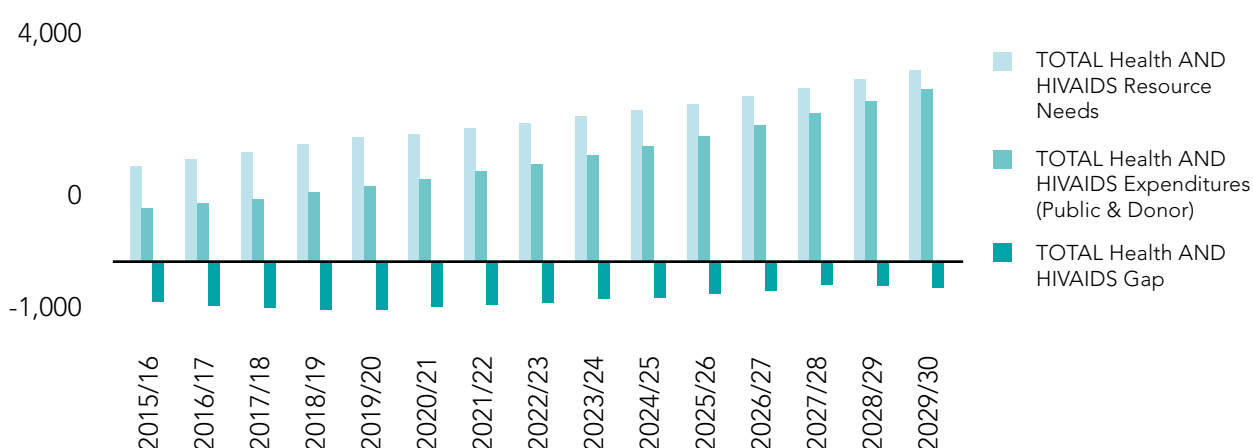
## 14.3 Resource Gap

**Scenario 1: Business as Usual** – Zambia’s lower level health needs are set at 86 USD per capita and the HIVAIDS resource needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 27 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- Combined UHC and HIVAIDS resource needs would be underfunded by around 690 million USD pa if the status quo continues.
- This equates to 1.6% of GDP or 5.3% of the national budget.

# F.27

## PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: ZAMBIA SCENARIO 1 (M USD)



<sup>57</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>58</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

**Scenario 2: Innovative Action** – Zambia takes action to alleviate the financing gap by raising Government Expenditure on Health to 12% (as per top tier middle income country health expenditure in SADC). In parallel the government would raise the share of health expenditure to HIVAIDS to 0.559. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

#### 14.4 Domestic Financing Options

The modelling projections imply a reduction in monies from the international community for health and HIVAIDS. To offset this and overcome the resource gap four options were examined, these are discussed below and shown in Figure 28:

**1. Increased Government Budget Allocation** – In an attempt to overcome this gap current government funding to the health sector could double from the current 6% allocated to health (to reach 12%). The DIPI Resch measure would need to rise to 0.5 over the same time period. With a greater government

commitment the Zambia could gain an additional 261 million USD pa over the projected time period. This could close the gap by 2028/29.

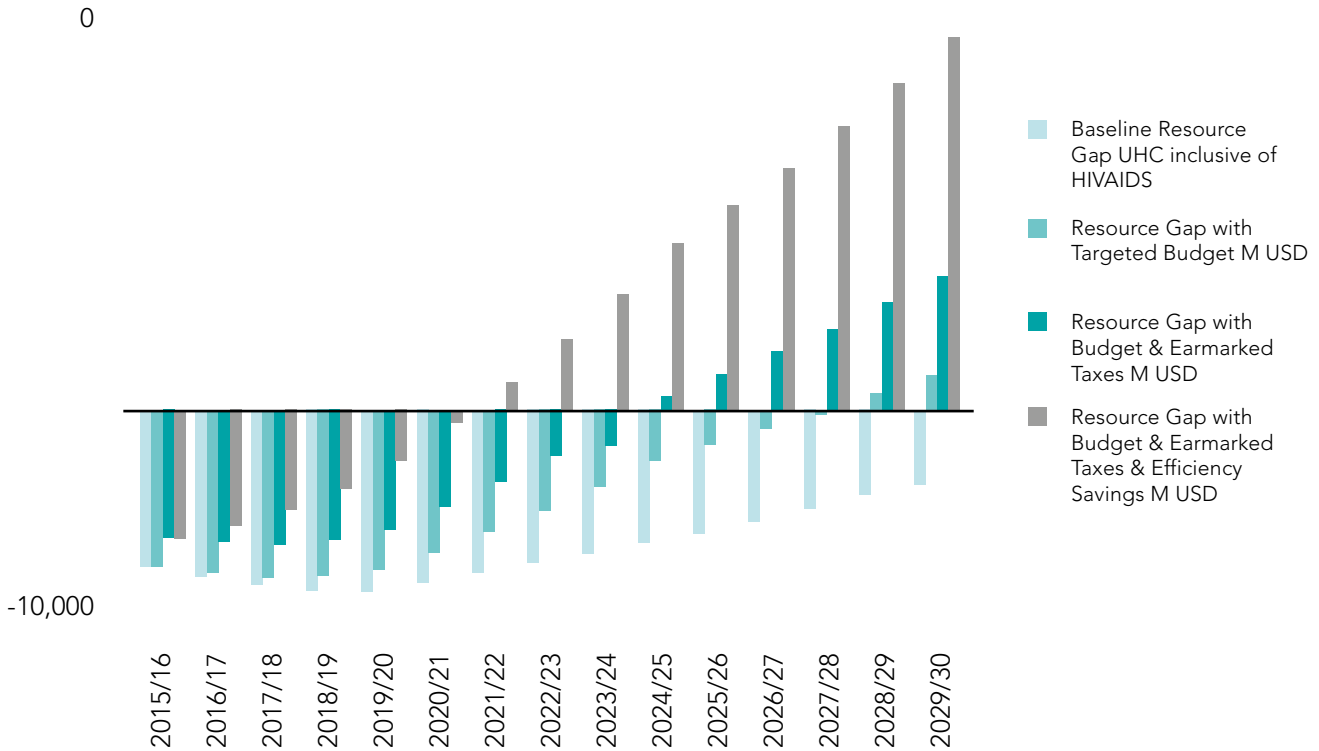
**2. Alternative Sources** – The remaining gap can be partially closed in the short to medium term by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 285 million USD a year to the sector. This equates to an average of 0.4% of GDP and would close the gap by 2024/25 alongside the budget allocation measures.

**3. Efficiency** – If Zambia implemented efficiency measure they could save an annual average of 580 million USD on the cost of services. This equates to 1% of GDP, or 3% of the national budget. The addition of efficiency savings to the first two financing options would close the financing gap by 2021/22.

**4. Borrowing** – Finally, to close the gap fully borrowing would be required in the initial six years averaging 390 million USD a year, (2.3% of GDP).

<sup>59</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.





14.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health and HIVAIDS is created through redistribution of current resources rather than increased national tax levels then there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

However, if the gap was to be entirely closed the Debt: GDP ratio would rise by 1.9% over the projection period. This moves the ratio (42.6%) outside the IMF bounds of advised debt sustainable levels (40%), but would remain within the SADC convergence criteria target (60%). However, it would only be for the medium term before other domestic sources rose to accommodate UHC needs.

Therefore this line of action should be taken with serious consideration, and if debt was considered concessional arrangements ought to be a priority.

14.6 Data Issues

Data availability for Zambia allowed for the general macro modelling methodology to be applied; i.e. the WHO Global Health Expenditure Database data (2008/09 to 2011/12) was used as a basis for trend projections.

More up to date data would have been useful for HIV/AIDS. The only source found was NASA 2005/06 which had budget data projections for 2006 and 2007.



# 15 Zimbabwe

## 15.1 Macro Indicators and Convergence Criteria

Table 15 shows a sub-set of key macroeconomic indicators for Zimbabwe resulting from the financing gap model. Strong growth and low inflation are in line

with SADC requirements. The Governments' Fiscal Deficit is within acceptable boundaries for the projected period. Public Debt is high, and although declining over the period it is still outside the SADC ceiling. The IMF's latest Debt Sustainability Analysis states that Zimbabwe is currently in debt distress<sup>60</sup>.

## T.14 MODEL PROJECTIONS FOR ZAMBIA COMPARED TO SADC CONVERGENCE CRITERIA

	SADC CONVERGENCE TARGETS		BASELINE	BUSINESS AS USUAL	INNOVATIVE ACTION
	2012	2018	2010/11-14/15 Average	2015/16-29/30 Average	2015/16-29/30 Average
Real GDP Growth*	7%	7%	9.2%	5.6%	-
Nominal GDP Growth	-	-	12.5%	9.2%	-
GDP per capita (USD)	-	-	720	1,545	-
Inflation (Annual Change)	5%	3%	3.3%	3.6%	-
Fiscal Deficit (+/- 1%)	3%	3%	-1.5%	-3.5%	-
Tax Burden**	-	-	32.9%	35.5%	35.9%
Public Debt (% GDP)	60%	60%	91.2%	85.5%	89.9%

Source: OPM Macro

Model Notes:

\* = The sustainability of a 7% real growth rate over ten years was considered optimistic and for the model a more conservative 5% real growth rate was used.

\*\* = Tax Burden in Baseline is the Tax: GDP Ratio, in Innovative Action Scenario the taxation-related innovative funding mechanisms are added (NHIF / SSF mandatory contributions are included in both)

GDP per capita is expected to grow from around 800 USD in 2014/15 to more than 2,000 in 2029/30. This is a movement up from low income to middle income status over the time period – as such all

macroeconomic indicators have been targeted to meet middle income levels by 2029/30; e.g. taxation rates, and ODA levels. These will affect the fiscal space available for health and HIVAIDS

<sup>60</sup> IMF Country Report No. 13/193 (Jul 2013) 'Zimbabwe Staff-Monitored Program'.

## 15.2 Current Situation in Health and HIVAIDS

Data on the Health sector (2008/09 – 2011/12) in Zimbabwe shows Households Out of Pocket Expenditures account for almost 50% of health expenditure. The Government provides just less than a third, donors just less than 30% and 5% is sourced from private companies. The Government's national health insurance makes up 15% of the government's funding of health. From the National Budget allocation to health is around 8%.

For HIVAIDS the UNGASS 2012 report shows that the sector is donor dependant funding 60% of total spending. The Government provides 37% of all funding for HIVAIDS – this includes a 3% earmarked transfer of domestic tax revenues. The Domestic Investment Priority Index (DIPI) stands at 0.02 which is low in comparison to the SADC region where the average was 0.5 (average 2008/09 – 2012/13)<sup>61</sup>. The Resch measure

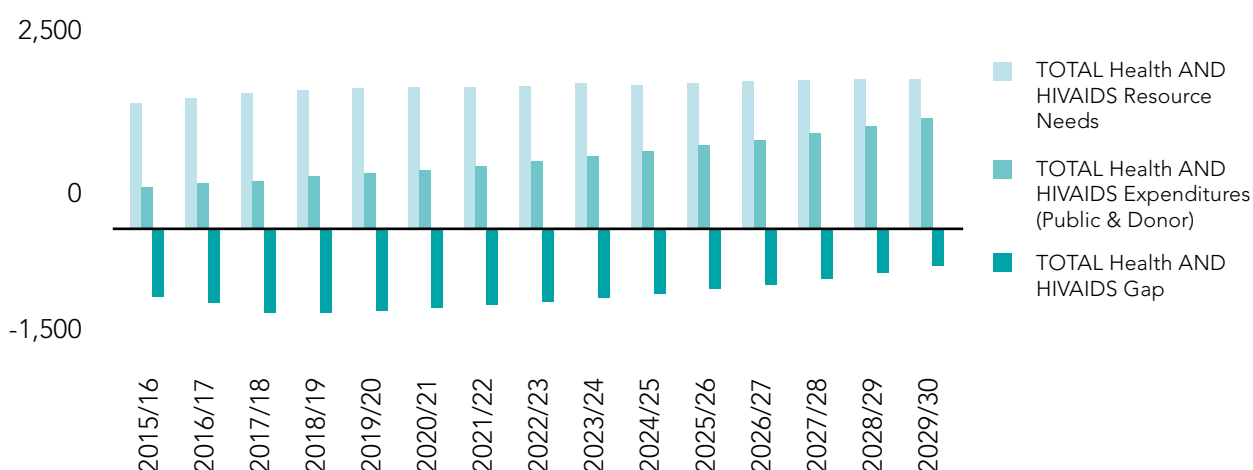
for comparable investment in HIVAIDS sits at 0.1, again low compared to the SADC average of 1.1 over the baseline period<sup>62</sup>.

## 15.3 Resource Gap

Scenario 1: Business as Usual – Zimbabwe's health needs are set at 86 USD per capita, and HIVAIDS resource needs are provided by UNAIDS. It is assumed that current allocation to health and HIVAIDS and other related policies are continued with a slowdown in donor funding. Figure 29 shows an overview of the findings on resource needs, available funding, and resultant funding gaps. Key findings are as follows:

- HIVAIDS needs could be underfunded by 940 million USD pa if the status quo continues.
- This equates to 4.5% of GDP or 10.5% of the national budget.

# F.29 PROJECTIONS FOR COMBINED UHC AND HIVAIDS RESOURCE GAP: ZIMBABWE SCENARIO 1 (M USD)



<sup>61</sup> DIPI = Government expenditure on HIVAIDS divided by General government expenditure as a proportion of the prevalence of HIV AIDS within the population.

<sup>62</sup> Resch measure of DIPI = Government expenditure on HIVAIDS divided by Government expenditure on Health as a proportion of AIDS DALYs within Total DALYs.

**Scenario 2: Innovative Action** – Zimbabwe takes action to alleviate the financing gap by raising Government Expenditure on Health to 12% (as per top tier middle income country health expenditure in SADC). In parallel the government would raise the share of health expenditure to HIVAIDS to 0.5<sup>63</sup>. This would be done over a ten year period, by 2024/25, and continue up to 2029/30. Other financing options such as earmarked funds are included as well as efficiency savings.

## 15.4 Innovative Funding

The modelling projections imply a reduction in monies from the international community for health and HIVAIDS. To offset this and overcome the resource gap four options were examined, these are discussed below and shown in Figure 30Figure 2:

**1. Increased Government Budget Allocation** – To overcome this gap current government funding to the health sector would need rise from the current 8% allocated to health (to reach 12%). The DIPI Resch measure would need to rise from 0.3 to 0.5 over

the same time period. This would raise an average of 1.3 million USD over the next fifteen years and would close the financing gap by 2022/23.

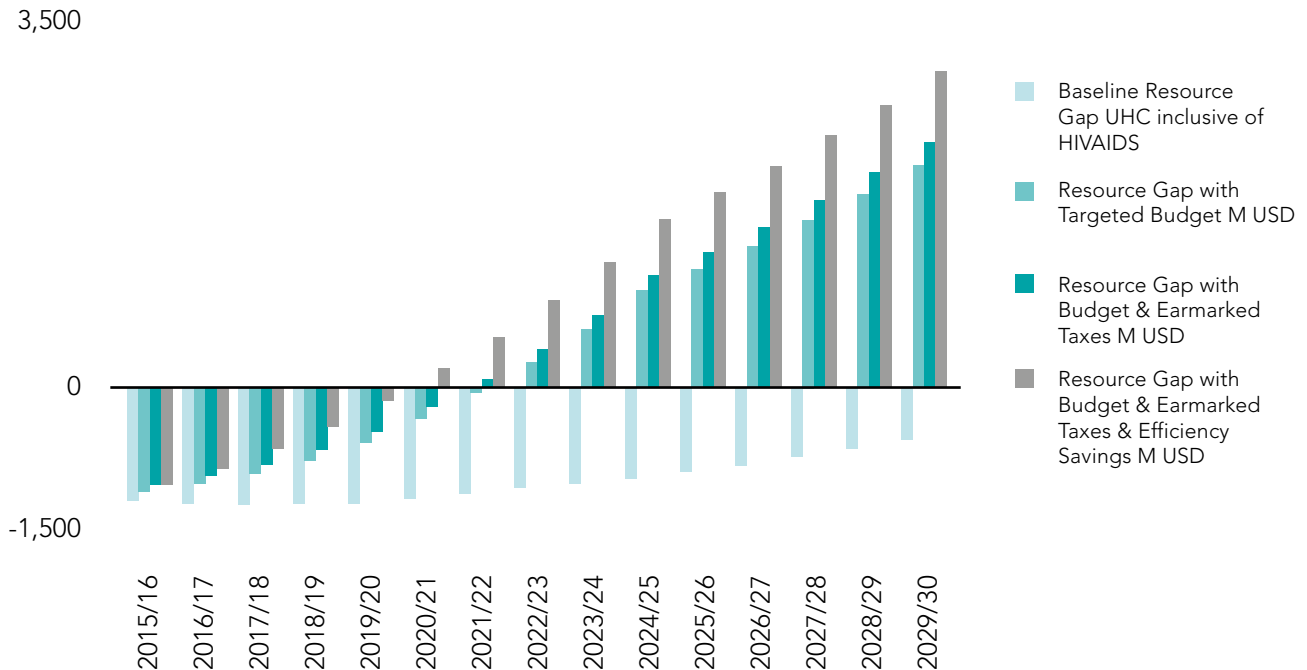
**2. Alternative Sources** – The remaining gap can be partially closed in the near term by the new alternative sources of funding. These specific taxation measures where revenues are earmarked for health and HIVAIDS (such as airport and airtime levies, and mainstreaming) have the potential to bring an extra 135 million USD a year to the sector. This equates to an average of 0.4% of GDP, and would close the gap by 2021/22.

**3. Efficiency** – If Zimbabwe implemented efficiency measure they could save 420 million USD pa on the cost of services. This equates to around 1.6% of GDP, or 3.8% of the national budget, and could close the gap by 2020/21.

**4. Borrowing** – Finally, it is projected that some accumulation of debt is necessary to meet the basic health needs for Zimbabwe in the initial five years. This would amount to around 575 million a year from 2015/16 to 2019/20.

<sup>63</sup> This means, for example, a country where 10% of the total disease burden is due to AIDS would be expected to spend at least 5% of its health budget on AIDS programs.





### 15.5 Fiscal and Macro Implications

Assuming that the increased budget allocation to health and HIVAIDS is created through redistribution of current resources rather than increased national tax levels then there is expected to be an increased tax burden of only 0.4 percentage points due to the new alternative funding sources.

However, the financing gap cannot be closed entirely without borrowing. This is projected to raise the Debt: GDP ratio by 4.4% - from 85.5% to 89.9% - over the projected time period. Given the level of debt stock and the status of being in debt distress, borrowing for health financing would not be advised. Zimbabwe is currently outside of the SADC criteria for Debt: GDP and the IMF recommendation of 40%. If it was a necessity, concessionary loans should be sought.

### 15.6 Data Issues

No up to date health financing data was available on the World Health Organisation (WHO). Instead the National Budget documents from the Zimbabwe Ministry of Finance were used to populate the macro model. OECD data on donor health financing was used for external funding. The budget supplied official data on national health insurance / social security contributions but no data was found on private health insurance.

HIVAIDS data was sourced from the UNGASS 2012 report. However this had only the top level spending amounts and so averages from the SADC countries were used to estimate the baseline funding sources for Zimbabwe. The budget data and 3% earmarked transfer also added to this calculation.









# HIV ERG

HIV Economics Reference Group

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ARE ENDING AIDS 2030  
AND UHC POLICY  
OBJECTIVES JOINTLY  
ATTAINABLE IN SADC?  
A FISCAL PERSPECTIVE

Technical Working Group for  
Sustainable Financing