

**ASSESSING FISCAL SPACE FOR HEALTH EXPANSION  
IN LOW-AND-MIDDLE INCOME COUNTRIES:  
A REVIEW OF THE EVIDENCE**

Helene Barroy  
Susan Sparkes  
Elina Dale



HEALTH FINANCING WORKING PAPER NO 3

# **ASSESSING FISCAL SPACE FOR HEALTH EXPANSION IN LOW-AND-MIDDLE INCOME COUNTRIES:**

**A REVIEW OF THE EVIDENCE**

Helene Barroy  
Susan Sparkes  
Elina Dale



**World Health  
Organization**

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: “This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition”.

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization (<http://www.wipo.int/amc/en/mediation/rules>).

**Suggested citation.** Barroy H., Sparkes S., Dale E.; Assessing fiscal space for health in low and middle income countries: a review of the evidence. Geneva: World Health Organization; 2016 (WHO/HIS/HGF/HFWorkingPaper/16.3; Health Financing Working Paper No.3). Licence: CC BY-NC-SA 3.0 IGO.

**Cataloguing-in-Publication (CIP) data.** CIP data are available at <http://apps.who.int/iris>.

**Sales, rights and licensing.** To purchase WHO publications, see <http://apps.who.int/bookorders>. To submit requests for commercial use and queries on rights and licensing, see <http://www.who.int/about/licensing>.

**Third-party materials.** If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

**General disclaimers.** The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

The named authors alone are responsible for the views expressed in this publication.

Printed in Switzerland.

# TABLE OF CONTENTS

<b>Introduction</b>	1
<b>Methods</b>	2
<b>Review Findings</b>	5
Definitions	5
Macroeconomic conditions	6
Budget reprioritization toward health	8
Earmarked funds	10
Efficiency improving measures	13
External resources	16
<b>Discussion</b>	20
Relevance of results for policy	20
Methodological challenges	21
Main lessons and ways forward	23
Review limitations	25
<b>Conclusion</b>	26
<b>References</b>	27
<b>Annex 1</b>	32
<b>List of Tables</b>	
Table 1: List of countries included in the review by income group	4
Table 2: Overview of methods: macroeconomic factors	7
Table 3: Overview of methods: efficiency	15
Table 4: Overview of methods for External Resources for Health	18

## ACKNOWLEDGEMENTS

This review is part of the Collaborative Agenda on Fiscal Space, Public Financial Management and Health Financing led by the World Health Organization. As part of that agenda, a program of work is being developed on fiscal space for health, looking at how the concept has been applied and used by low-and-middle income countries to support health financing reform efforts toward Universal Health Coverage (UHC). The first steps of this program of work include: i) a qualitative review of existing fiscal space for health studies; ii) an analysis of the policy use of fiscal space for health studies; and iii) a retrospective data analysis on the fiscal space for health expansion in LMICs.

Financial support for the work was provided by the UK Department for International Development (DFID) under the Program for Improving Countries' Health Financing Systems to Accelerate Progress towards Universal Health Coverage, and the Ministry of Health and Welfare of the Republic of Korea, under the Tripartite Program on Strengthening Health Financing Systems for Universal Health Coverage.

The review was produced by the Health Systems Governance and Financing Department of the World Health Organization. It was prepared by Helene Barroy, Susan Sparkes and Elina Dale, under the overall guidance of Joseph Kutzin.

Invaluable reviews and inputs to an earlier version of this work were provided by Sanjeev Gupta (IMF), Ajay Tandon (World Bank), George Schieber (consultant), Jacky Mathonnat (CERDI), Inke Mathauer (WHO), Sarah Thomson (WHO/EURO), Llius Vinals (WHO/SEARO), Ke Xu (WHO/WPRO), and Dorjusuren Bayarsaikhan (P4H). The team would also like to thank Nuria Quiroz Chirinos for administrative support and Gary Humphreys for editing assistance.

# SUMMARY

## Key Messages

- Advances in the conceptualization of fiscal space for health made during the MDG era have helped structure analysis and situate health financing reforms within macro-fiscal environments.
- Fiscal space for health studies show significant alignment on the potential for economic growth, budget reprioritization and efficiency improvement measures to drive fiscal space for health expansion.
- From the fiscal space for health studies reviewed, the limited evidence available is not conclusive in showing potential for ear-marked funds, in the form of public health taxes or social health insurance contributions, to provide large-scale, sustained expansion of fiscal space for health.
- While highlighting the valuable contribution that fiscal space for health assessments can make to contextualizing health financing within each country's macro-fiscal environments, this paper also calls for refinements in methodological approaches in order to strengthen the relevance and applicability of study results.
- More systematic attention should be placed on assessing possible gains derived from better efficiency and public expenditure management. Additional guidance is needed on how to define and measure those gains to free up resources for the sector.
- To more effectively support the design and implementation of health financing reforms, future fiscal space for health assessments would need to be routinized in budgeting processes and have their political and technical feasibility explicitly considered.

**Background:** Despite the proliferation of the term 'fiscal space for health' in recent years, there has been no comprehensive review of how the concept can be applied to assess and support the expansion of resources for the health sector. There is also a certain amount of confusion regarding the conceptual underpinnings and application of fiscal space for health analysis, notably regarding the way in which such analysis can help countries realize potential fiscal space for health expansion.

**Methods:** A qualitative review of 35 studies was undertaken in four stages to identify all fiscal

space for health studies and to systematically assess their findings and methods. These four stages involved a literature search, crowd-sourcing techniques, data extraction, and comprehensive qualitative analysis.

**Results:** There is significant alignment regarding the evidence that economic growth, budget reprioritization and efficiency improving measures are the main drivers of fiscal space for health expansion. Conversely, there is scarce evidence regarding the prospective role of earmarked funds, and development assistance for health in expanding fiscal space for the sector. The

lack of standardized methods and metrics to systematically assess fiscal space for health results in variations in the analytical approaches used, and limits study relevance and applicability for policy reform.

**Conclusions:** A more contextualized approach to fiscal space analysis is required that focuses on key sources of fiscal space for health expansion and includes efficiency

enhancements. Fiscal space analysis should be systematically embedded in domestic budgeting processes and explicitly consider both technical and political feasibility of assessed options. Adopting this approach could offer considerable potential for optimizing government budget and expenditure decisions and more effectively support progress toward universal health coverage.

# INTRODUCTION

The concept of fiscal space (including fiscal space for health) has gained increased visibility in global and national policy discussions, where it is recognised as an important issue that all countries must take into consideration as they seek to make progress toward universal health coverage (UHC). The topic is of particular importance for many low- and middle-income countries (LMICs), which are the focus of this review, as they try to expand fiscal space for the sector to meet health coverage goals in the context of structural revenue and financing constraints. Importantly, the issue of fiscal space for health is also critical for higher income countries; however, it is approached in a different way as highlighted in work on the recent financial crisis. Specifically, countries in the European region have faced challenges in maintaining or limiting the contraction of fiscal space for health due to overall fiscal pressures or reduction in health budgets [1]. Therefore, the concern is focused on sustaining rather than expanding fiscal space for health.

First defined by Heller in 2005 [2], fiscal space is the budgetary room allowing a government to provide resources for public purposes without impacting fiscal sustainability, that is to say without threatening government solvency given existing fiscal conditions and long-term requirements [3]. The possible sources or channels of fiscal space expansion that Heller laid out include: taxation, increase in priority expenditures, borrowing, seigniorage<sup>1</sup> and external resources.

---

<sup>1</sup> Seigniorage is defined as the difference between the value of money and the costs of producing and distributing it.

While the basic concept applies to all public spending, subsequent frameworks derived from it have been used extensively in LMICs to assess the currently available and potential space for increased public spending on health specifically. Heller's work on the health sector (2006) [4] was largely motivated by Latin American and European countries' concern in the late-1990s regarding fiscal restrictions, particularly for "meritorious programmes", such as those related to health and other social sectors. While focused on one sector, the framework clearly acknowledges that government expenditure decisions are typically made in the context of competing demands for higher public spending, and that overall increases in the supply of public resources does not necessarily lead to more public spending on health.

Building on Heller's framework, Tandon and Cashin [5] elaborated on the sources that could be used to generate fiscal space for health and included: (i) conducive macroeconomic conditions, (ii) reprioritization of health within the government budget, (iii) an increase in health sector-specific resources (i.e. earmarked funds), (iv) health sector-specific grants and foreign aid, and (v) an increase in the efficiency of existing health expenditure. The main differences between Heller's criteria and Tandon and Cashin's approach lay in the broader inclusion of macro-economic conditions, with a focus on income growth; the addition of earmarked funds, mainly in the form of indirect taxes and social health insurance contributions; and the incorporation of efficiency gains as a core pillar of fiscal space for health expansion.



Complementary approaches, developed over the course of the 2000s, have further disaggregated the expansion of fiscal space for the overall government from sector-specific measures that could enhance the quality and efficiency of health expenditure [6, 7].

Despite these conceptual efforts, confusion remains with regard to the precise significance of the concept for health financing reform. More specifically, there is a lack of clarity regarding the way to effectively assess the potential for, and then actually realize fiscal expansion for the sector [8]. In practice, considerations of fiscal space for health have generally focused on calls for additional resources, while efficiency-enhancing measures (a key aspect of Tandon and Cashin's approach), have been largely overlooked. [9]. Moreover, the absence of precise guidance on how to characterize and measure the room available for expanding fiscal space for health has led to wide variations in the application of the concept.

While extensive work has been conducted in the context of higher income countries [1], there has been less attention paid to rigorously assessing fiscal space for health studies for LMICs, which is the focus of this study. In particular, no comprehensive review of existing assessments has been conducted so far [10, 11]. The aim of this paper is to present the findings of a literature review of fiscal space for health studies. The review takes stock of existing work by analysing key results of country-level projections and assessing the main methods used to project fiscal space for health in LMICs. The paper comprises three sections: the first focuses on the methods used in this review to assess the literature; the second presents the main findings of the review in terms of both the results generated and methods used in the relevant fiscal space for health analyses; and the third discusses good practices and remaining challenges.

# METHODS

A four stage, qualitative review of fiscal space for health studies was undertaken to identify and analyse fiscal space for health studies conducted in LMICs only between 2005 and 2016. In the first stage, a literature search using the term “fiscal space” was conducted using PubMed. The studies identified in the initial search were undertaken between 2005 and August 2016 and were written in English, Spanish and French. The search resulted in a total of 51 publications. Based on the review of titles, 25 studies were excluded from further review for one of the following reasons: (a) a focus on high-income countries; (b) a focus on a single source of fiscal space for health expansion; (c) a focus on an overly narrow set of health services; or (d) a secondary focus on fiscal space (e.g. the concept was used in the study, but it was not the main topic).

A second search using Google Scholar was also undertaken using the term “fiscal space” in the title of the article. This generated 135 studies. Their potential relevance was examined based on the titles, and, after removing duplicates, the majority of studies were excluded based on the same criteria as those used for the PubMed search. The abstracts of the remaining 44 studies from this combined search were examined, and 28 were excluded as they did not meet the inclusion criteria which were: assessing multiple sources of fiscal space for health; using existing conceptual frameworks on fiscal space; or providing an assessment of fiscal space for health expansion. This left 16 studies in the final review.

Given the nature of the topic, it was not expected that there would be a large body of published

evidence. Indeed most studies are typically not published in the public domain, or as stand-alone papers, but rather are either a component of or background to larger sector or fiscal studies. So crowd-sourcing was also used, reaching out to key experts and scholars known to be involved in the field of fiscal space for health. This helped identify a further 24 country studies, comprising other published academic work, as well as grey literature, PowerPoint presentations, and book chapters. Five studies were excluded from the sample of 40 studies for quality reasons, because they did not follow Heller’s fiscal space for health definition and framework, or because they only examined a single source of potential resources for the health sector and did not compare across multiple sources. Thus, the review consists of 35 regional and country specific studies encompassing 44 countries (see list of countries in Table 1 and full list of reviewed studies in Annex 1).

The third stage consisted of extracting relevant data and information from each of the studies. A uniform approach to classifying, reviewing and analysing each study was used to address the heterogeneity of the analyses. This permitted the generation of a summary for each of the identified fiscal space for health assessments using the following criteria:

- a) Author/organization
- b) Country/region
- c) Study date and country health financing context
- d) Methods used to assess fiscal space for health expansion
- e) Key findings related to potential change in scope of fiscal space for health expansion.

In the fourth stage, the initial effort to summarize and classify the studies enabled a deeper analysis in terms of source of fiscal space for health expansion. For each source, the strength of the evidence was assessed by looking at the type of analysis conducted and

the main indicators used to measure potential for fiscal space for health expansion. The last step consisted in compiling and analysing the expected scope of change for each source (i.e. the magnitude of change in public expenditure on health).

**Table 1:** List of countries included in the review by income group

Low-income	Lower-middle-income	Upper-middle-income	Regional studies
Benin*	Bangladesh **	Botswana*	Arab region
Burkina Faso	Bhutan**	Brazil*	Caribbean region
Chad	Bolivia*	Costa Rica*	Sub-Saharan Africa
Democratic Republic of Congo	Cameroon	Ecuador	
Ethiopia	Congo, Republic*	Equatorial Guinea (high income)*	
Guinea	Cote d'Ivoire	Gabon	
Liberia	Ghana**	Maldives*	
Madagascar	India	Namibia*	
Mali*	Indonesia	Peru	
Mozambique	Lesotho*	South Africa	
Nepal**	Morocco	Thailand*	
Niger	Myanmar*		
Rwanda	Nigeria		
Tanzania	Senegal*		
Uganda	Sri Lanka*		
	Timor-Leste*		
	Viet Nam		
	Zambia		

Note: \*Countries included in cross-country case studies. \*\*Countries covered under both cross-country studies and country specific studies. For the purpose of the review, the authors use and refer to country-specific findings for these countries.

# REVIEW FINDINGS

While the study contexts, analytical methods and main findings differ, the majority of studies organize their assessments of fiscal space for health around the framework established by Tandon and Cashin [5]. Indeed, the majority of studies assess fiscal space potential in terms of the five, above-mentioned sources. Following the structure of the studies included in the review, the findings are here organized and described by source. Within each source, findings are then organized in terms of the results of the reviewed studies with respect to, first, the main drivers of fiscal space for health expansion and, second, the methods used to assess possible expansion from each source. This section starts by outlining the different ways in which the fiscal space concept is interpreted and applied.

## DEFINITIONS

While most of the studies follow a similar analytical framework, there is significant variation in how the concept of fiscal space for health is actually interpreted. One key difference is the extent to which fiscal space is approached solely from the revenue-generating perspective as compared to an approach where efficiency-enhancing measures are also a core part of the analysis. Differences in interpreting the fiscal space for health concept have significant implications for the methods used, and the findings generated.

In the MDG context, interest in the fiscal space concept was largely informed by

pressures facing countries to close financing gaps in order to achieve the health Goals [4, 12, 13]. As a result, the fiscal space for health analysis undertaken in the studies considered has been often motivated by the need to find additional resources for the health sector or specific programs (e.g. HIV/Aids, vaccines etc.) [14]. Typically, external sources, regardless of whether or not they are channelled through the budget, are included, along with domestic resource mobilization mechanisms.

Other studies, or sub-components of studies, adopt a narrower interpretation of the fiscal space for health concept, defining it as the margin available for further public investment in the health sector. In this interpretation, the concept is thought of as the gap between the current and optimal/maximal level of public spending, given macro-fiscal opportunities and constraints on one side, and government choices on the other (i.e. the budget priority given to health) [15]. Building on this definition, several studies aim at identifying measures to encourage increased public expenditure on health, focusing mostly on the generation of new fiscal revenues that could lead to higher public spending, or on budget re-allocations toward the sector [16]. While taking a sector-specific perspective, these studies tend to integrate analysis of macro-fiscal prospects, and to emphasise the imperative need for overall government fiscal solvency/sustainability.

Another set of studies, though relatively limited in number, expands the scope of analysis beyond revenue-generating mechanisms to include efficiency enhancements. The

inclusion of efficiency is mostly used to shed light on possible misallocation and use of *existing* resources, and to quantify the potential gains to be realized through more efficient resource use. A few studies consider efficiency enhancements, including public financial management improvements, as a separate channel that can *by themselves* effectively translate into additional resources being retained and employed within the sector.

## MACROECONOMIC CONDITIONS

### RESULTS

The expected gains of fiscal space for health derived from macroeconomic growth vary considerably across countries, reflecting different country starting points and prospects. Unsurprisingly, estimates show that larger gains are expected where macroeconomic prospects are favourable.

In contexts with positive macroeconomic prospects, estimates show sizeable space for increased public spending on health (e.g. above 1% of GDP), even at constant elasticity to GDP (i.e. without increasing the budget's health share). The Democratic Republic of Congo (DRC) study is a good example. If recent (2011-2012) elasticity rates are sustained in the medium term, public spending on health could almost double, given favourable economic growth forecasts [17]. Similarly in the Peru study, an optimistic scenario predicts that recent high economic growth could be repeated in the coming years, leading to potential increases in fiscal space for health of up to 1.03% of GDP [18]. In the 2007 Uganda study, estimates show that, assuming constant public spending on health

elasticity to GDP, the country could expect to see significant increases in per capita public spending on health, given positive economic growth forecasts [13]. Assuming that public spending on health continues to respond to growth, as it did during the period 2000–06, the Uganda study indicates that growth projections imply a potential doubling of per capita public expenditure on health, rising from 3 – 4% of GDP over the following six to seven years [13].

In contexts with less favourable macroeconomic growth prospects, the scope for generating additional fiscal space for health is estimated to be more limited. For example, the case of Guinea shows the extreme economic hardship facing a low-income country in the post-Ebola period, and highlights the observed contraction in revenue growth and the expected economic stagnation following the epidemic. The income effect on fiscal space for health is therefore expected to be negative, entailing net losses in public spending on health in the coming years [19].

In the Ghana study, the 2009 projections show that the fiscal space expected from macroeconomic performance is likely to be limited due to a forecast slowdown in income growth over the medium term. In this context, gains from strengthened tax collection systems or reforms in tax base/rates are presented as the main potential drivers of fiscal space for health expansion. Significant increases in government revenue are expected from new revenue collection efficiency measures. Estimates suggest that the additional revenue likely to be generated through these measures in the medium-term may possibly be one of the most important sources of new fiscal space for health [20].

Country studies conducted in the Asian region show moderate prospects for fiscal space for health expansion as a result of an anticipated economic slowdown coupled with a long history of limited responsiveness of public spending on health to growth. For example, a detailed study in Nepal indicates that the prospects for increased public resources for health being made available are relatively poor [21]. A combination of factors, including the delayed impact on growth of the 2008-2009 financial crisis and the low historical elasticity of public expenditure on health to GDP suggest that – at least in the short- to medium-term – the availability of additional public resources for health is likely to be limited, unless there is a radical change in budget priorities [21]. In the case of Vietnam, a study determines that at the current growth projections – and if income elasticity stays at post-2006 levels – moderate additional fiscal resources for health of about 0.3% of GDP from 2010 to 2015 can be expected [22].

In oil-based revenue economies (e.g. Cameroon, Chad, Gabon), where macro-economic performance is strongly associated with changes in oil prices and volumes of production, the prospects for increasing

fiscal space for all public purposes, including for health, are also judged to be limited. For example, an analysis conducted in Chad indicates that, over the medium-term, the macroeconomic outlook may allow only a moderate increase in public spending on health without undermining fiscal solvency. The study shows that the outlook is strongly driven by expected swings in oil prices and production, and associated decreases in fiscal revenue [23].

## METHODS

As shown in Table 2, three main approaches have been applied to assess the role of macro-fiscal conditions in fiscal space for health expansion: i) expenditure to income elasticity analysis; ii) overall government revenue projections; iii) qualitative analysis of macro-economic environments.

Building on the well-established relationship that, on average, government spending, including that assigned to health, tends to increase with economic growth [5], the primary approach used in most of the studies (DRC, Gabon, Ghana, Indonesia, Nepal, Peru, Uganda, and Vietnam) depends on elasticity

**Table 2: Overview of methods: macroeconomic factors**

Type of analysis	Main criteria	Studied countries
Elasticity analysis of public spending on health with respect to growth of GDP	Change in public spending on health as a share of GDP or per capita	- DRC, Gabon, Ghana, Indonesia, Nepal, Peru, Uganda, Vietnam, - PAHO cross-country study
Quantitative assessment of the effect of projected increase in general revenues on the scope of public spending on health	Change in public spending on health in nominal volume, as a share of GDP or per capita	- Cameroon, DRC, Gabon, Madagascar, Nigeria, Rwanda - Caribbean region
Qualitative assessment of macro-fiscal parameters (growth, revenues, fiscal balances, unemployment, and inflation) with no quantification of scope in public spending on health due to anticipated change in macro-fiscal conditions	Qualitative criteria (high, moderate, or low)	- Cameroon, Chad, Congo, Equatorial Guinea, Guinea, Ivory Coast, Mali, Senegal, South Africa, Tanzania - Arab countries, South-East Asian countries

analyses of public expenditure on health relative to GDP growth. The studies that use this method to assess fiscal space for health expansion quantify the expected change in public spending on health as a share of GDP or per capita. To assess the possible scope of change, most elasticity analyses lay out scenarios, building on historical/constant and projected elasticity rates.

A subset of studies (Cameroon, DRC, Gabon, Madagascar, Nigeria, and Rwanda) focuses on the size of the government, rather than the size of the economy, to project fiscal space for health expansion, assuming that this approach reduces uncertainties regarding the transformation of domestic income into actual public revenues. These studies quantify the effect of an expected change in government revenues on public spending on health and estimate the change as a share of GDP, per capita or in nominal volume. For example, the DRC study quantifies the possible gains in overall fiscal space (i.e. expected change in domestic revenues) based on available macroeconomic projections and expected tax reforms and then estimates to what extent this change in revenues is likely to translate into increased public spending on health, all other factors being equal [17].

Finally, several studies adopt a more qualitative approach – alone or in combination with a quantitative assessment (Chad, Cameroon, South Africa, and Tanzania). Building on brief analysis of macroeconomic environments, these studies do not quantify possible gains but provide analysis of the “conduciveness” of the macroeconomic prospects. The main indicators reviewed typically include: income growth, inflation, employment, revenues, deficit and debt-to-GDP ratios.

## BUDGET REPRIORITIZATION TOWARD HEALTH

### RESULTS

Most studies consider that budget reprioritization toward health is desirable and that a higher priority for the health budget can help provide the needed resources to expand health coverage. However, the size of expected change in per capita public expenditure on health resulting from reprioritization varies considerably across the studies. Gains (in per capita terms) are generally expected to be higher when the existing share of health within the general government budget (i.e. the starting point) is relatively lower.

In several contexts with low prioritization (e.g. Bangladesh, Bhutan, DRC, Equatorial Guinea, Guinea, Indonesia, Ivory Coast, Nigeria, Tanzania, Timor-Leste), the potential for fiscal space expansion is judged to be considerable. For example, the Tanzania study estimates that a significant re-prioritization toward health could generate up to US\$770 million per year for the next ten years [24], which is almost double public spending on health in 2014-15. In the case of DRC, a reprioritization from the 2013 level of 5% to 8% and 10% could lead, respectively, to an 0.3% and 0.6% increase relative to GDP – a relatively limited increase due to the small size of overall public resources, but a doubling in nominal terms of public spending on health [17].

In contrast, other studies find that there is little scope for fiscal space for health expansion as a result of budget reprioritization. In the Peru study, for example, the government allocated 14% of total public expenditure to health in 2014, 1% above the regional average and not far from the 17% observed in high-



income countries. Thus the scope for further re-allocation is estimated to be limited [18].

By incorporating political economy considerations, several studies have determined that significant change in budget allocations is unlikely in the short-to medium-term, regardless of the existing level of public spending on health. Authors of the studies on Chad, Gabon and Uganda, for example, are relatively pessimistic regarding the prospect of an increase in health's share of the budget in the foreseeable future, given political commitments to other sectors such as infrastructure, education or agriculture/ local development. For Ghana, ongoing fiscal consolidation (2010-2011) is also seen as a likely constraint on significant resource reallocation in favour of health.

## METHODS

To project the change in fiscal space for health that could be generated through budget reprioritization, most of the studies assess historical and current health budget shares based on available budget data or secondary sources (typically Public Expenditure Reviews and National Health Accounts). They then project varying levels of health share of budget against national, regional or global benchmarks to determine the possible amplitude of any change. Approaching prioritization via spending targets raises questions as to its relevance for country policy; this is further discussed below (see discussion section).

When benchmarking against national targets, studies use a variety of pre-set goals and assess the scope for expanded fiscal space that could be expected from better enforcement. These goals include: legally defined budget targets for health (e.g. Vietnam); spending targets

set in national health plans (e.g. Chad); and presidential or ministerial commitments/ programs (e.g. DRC, Ghana, India). With regard to regional comparisons, the most widely used relative target in African studies is the 2001 Abuja Declaration that calls for governments to increase the share of their public spending on health to 15% of total government expenditure [25].

Some studies also use absolute global targets, such as the level of total health spending per capita, to then estimate the needed change in terms of budget re-prioritization toward health to help close the gap between current spending and the defined target (e.g. Ethiopia, Tanzania, and Uganda). An often quoted number in the first fiscal space for health studies conducted comes from the Commission on Macroeconomics and Health, which estimated that countries need to spend a minimum of US\$34 per capita in order to provide a basic package of health services [26]. More recent studies refer to a more up-to-date estimate, namely US\$86 per capita [27].

In some of the studies, instead of referencing predefined targets, gains are estimated based on expected improvements in public finance systems. As an example, in contexts characterised by a low level of budget execution, such as DRC, the analysis is meant to highlight the gap between health budget allocation and actual spending, and to calculate fiscal space expansion based on improved effectiveness of public spending [17]. In this context, prioritizing expenditure on health means improving alignment between allocation and actual expenditure, notably by limiting sector de-prioritization in mid-year budget reallocations and by fixing major deficiencies in public expenditure management that contribute to altering execution in the sector.



Several studies provide no specific quantified projections, emphasizing the large number of unknown factors, including political dynamics, which impact the budgeting process and government expenditure decisions (Chad, Ghana, Indonesia, Nigeria, and Vietnam). For example, the Nigeria study amply demonstrates that due to the politics of budget preparation and resource allocation at the federal level<sup>2</sup>, health tends to be considered a marginal sector [28]. As a result, the priority given to health is volatile and “the product of political manoeuvring that has little relation with the sector activities, performance or goals”, making it difficult to forecast changes in budget reallocations for health [28]. This resonates with observations made in many other fiscal space for health studies regarding the difficulty of providing robust projections in the face of limited predictability in annual health budgets.

While assessing the priority given to health, very few studies look at the share of other sectors in budgets or suggest options for intersectoral re-allocations. The Indonesia study is a notable exception, providing a clear recommendation for reductions in fuel subsidies that could free up public resources and be re-used in a more pro-poor manner through investments in the health sector [29].

## EARMARKED FUNDS

### RESULTS

In the frame of fiscal space for health studies, earmarked funds are understood as

separating all or a portion of revenue from a tax or group of taxes and setting it aside for a designated purpose [30]. Studies typically reference potential revenues for health from public health taxes, social health insurance contributions/payroll taxes, and other indirect taxes sources, such as natural resources or mobile phones. However, the available evidence is scarce. Few studies provide an in-depth assessment of the potential revenues that could be generated from the introduction of earmarking as a revenue source for health. Rather, they provide a qualitative reference to the possibility of exploring these mechanisms.

Most of the studies that specifically consider earmarking find that there is relatively limited potential for the creation of additional fiscal space from this source. In this instance, it is important to separate the important public health objectives of these taxes (e.g. reduced smoking incidence) from their ability to generate significant revenues for the health sector. Here we solely focus on the latter, but it is essential to point out that the main value of public health taxes (e.g. tobacco, alcohol, added sugar) in particular is deterrence of unhealthy behaviour, not their direct revenue potential.

Specifically, seven analyses rule out earmarking as a possible approach due to the inability to effectively raise additional revenues through specific sources that are not part of general tax revenue collection (Brazil, Cote d'Ivoire, Ethiopia, Gabon, Nepal, Thailand and Uganda). Only in the case of Indonesia is the expected “gain” from earmarked taxes determined to be high, but even there, the actual potential fiscal space is not quantified.

With regard to public health taxes, tobacco taxation is specifically examined in eight

---

<sup>2</sup> Most of the health mandate has been decentralized to county governments, the federal level being in charge of tertiary care only for the whole country.

studies (Bhutan, Cote d'Ivoire, Gabon, Indonesia, Nepal, Peru, South Africa, and Vietnam). These studies reference the potential for tobacco taxation to increase fiscal space for health, basing their estimates on the relative tax-rate-to-retail-price ratio. For example, in Indonesia, taxes on cigarettes are found to be low relative to regional comparators, at just 31% of the retail price [29]. The authors cite a study that shows that a 10% rise in the price of cigarettes in the country could increase government revenues from cigarette taxation by 6.7 to 9% [31]. Similarly in Vietnam, the tax rate on cigarettes is well below the 65-80% of retail sales price recommended by the World Health Organization [32, 33]. These price comparisons serve to show the potential for public health taxes to generate additional revenues. However, the authors do not necessarily go on to quantify those potential gains.

Only two studies take this additional step and provide precise quantification. A fiscal space study undertaken in Peru notes that the tax rate on tobacco products is just 37.8% of the retail price [18] and the authors suggest that, based on the elasticity of tobacco use to price, fiscal space equivalent to approximately 0.02% of GDP could be generated by increasing the tax rate on tobacco products to the average price in Latin America (23.3% higher than current price level) [18]. In assessing the viability of a tobacco taxation to generate revenues in Gabon, the study authors find that by increasing the excise tax on tobacco, fiscal revenues could expand by 0.05 % of GDP [34].

From a more qualitative perspective, studies in Bhutan, Nepal and Tanzania find that the reference price for tobacco products is already high and therefore tobacco taxation is not considered as a possible source of fiscal space for health expansion. Studies on both Bhutan

and South Africa conclude that, while tobacco prices are relatively high, there is scope to explore taxation on alcohol, as well as sugary and fatty products [35, 36].

Other types of earmarked solutions, than public health taxes, are also considered. These include placing levies on mobile phone airtime, remittances or tourist attractions, as well as introducing health-specific lotteries. For example, studies conducted in Ethiopia and Tanzania find that the additional revenues that could be generated by introducing these sources of financing are relatively modest, ranging from US\$69 million in Tanzania, representing 2.3% of total health spending, to US\$3.9 million in Ethiopia, representing <1% of total health spending [24, 37]. In the case of Guinea, it is estimated that two new, supposedly earmarked, taxes on mobile phone communications and company revenues could generate up to \$60 million annually, which roughly equals the annual health budget [19].

In both the case of Ghana and Gabon [20, 34], the studies were conducted just after an earmarked tax was introduced to subsidize health coverage for the poor. In the case of Ghana, a portion of VAT revenues was channelled to the National Health Insurance and in Gabon a levy was introduced on foreign personal money transfers and mobile phone company revenues to provide health coverage for the poor. While there was an initial increase in funding for health after the introduction of these earmarks, the ex-post fiscal space for health studies question the ability for these increases to be sustained over time due to fungibility concerns and potential decreases in revenues for health from other sources that offset the earmarked funds.

Fifteen studies examine social health insurance contributions as a potential source

of fiscal space for the health sector. In most cases, projections reveal low expected gains, but do not provide further quantified estimates that could be derived using actuarial methods. In cases where social health insurance contributions are considered and then disregarded (as in Uganda), labour market informality and concomitant implementation constraints are cited as the key constraining factor. In countries already benefiting from these contributions, key considerations are not only the level at which the contribution rate is set, but the rate of compliance. For example, increasing compliance to pay the 2.5% employee payroll tax contribution to help finance the national health insurance system in Ghana is viewed as a possible means to provide additional resources for the health sector, given the relatively low rate of compliance [20].

## METHODS

The analyses which specifically discuss earmarking revenues are primarily qualitative in nature and based on conjecture regarding fiscal capacity and market structures. Few specific numbers reference absolute levels of financing, or financing as a share of GDP. Rather, the viability assessments are based on global benchmarks or subjective assessments based on the political and economic contexts of each country.

The method generally used to assess the potential for taxes on tobacco products as a potential source of fiscal space is to compare the tobacco tax rate as a percentage of the retail price of cigarettes. Assessments are then made with respect to this benchmark as to the feasibility of increasing the price of these products to generate additional revenue. Only the Peru study makes a quantitative estimate based on the elasticity of tobacco use in the

case of an increase in taxation and projects how much fiscal space can be generated as a percentage of GDP [18].

In the case of a tax on sugary or fatty foods, there is no quantitative analysis beyond referencing obesity rates. The Tanzania study makes a concerted effort to quantify these “innovative” mechanisms for mobilizing health sector resources, such as airtime and remittance levies based on current flows or use data [24].

Many assumptions are made in analysing earmarked revenues from each of these potential sources of fiscal space. First, the majority of the studies assume that all revenues from a marginal increase in taxation would go directly to the health sector. The fungibility of revenues across sectors, or even within the health sector, is not taken into account<sup>3</sup>. For example, scenarios in which funds from the earmarked source simply replace those from another source, resulting in no net increase in fiscal space are not considered. Second, most studies fail to consider the tax administration issues in analysing fiscal space. One study examining fiscal space for health across South-East Asian countries does caution against pursuing earmarking as a source of revenues where macroeconomic and public financial management fundamentals are not solidly in place [38]. Other studies generally reference improvements in tax administration (e.g. Gabon and Ghana) as a way to increase

---

3 In this case, fungibility refers to the potential for the national Finance authorities to reallocate discretionary budget revenues away from health in response to the receipt of earmarked revenues for health. Where this happens, the revenues raised through the earmarked tax are not purely “additive”; they are offset by the reallocation of other revenues.

overall fiscal space for health and not just from earmarked sources [21, 34].

Political economy considerations feature prominently in the analysis of the potential for earmarking revenues to generate fiscal space for health (e.g. Gabon, Ghana, Chad, DRC, Nepal and Peru). These cases specifically discuss whether a political window of opportunity exists that permits the introduction of new earmarked sources or the increase of existing earmarked sources. For example, in Gabon where two new earmarked taxes were recently introduced for the health sector, additional earmarked sources of funds for the sector are unlikely due to strong opposition from the business community [34]. Similarly, in Ghana the study reports that it would be difficult to channel additional funds through earmarked VAT for the health sector due to the potential for both business and consumer resistance [20].

## EFFICIENCY IMPROVING MEASURES

### RESULTS

Several studies in this review note that improving the efficiency of health spending has the potential to create extra fiscal space for the sector [39]. Where health expenditures do not achieve maximum outputs, certain resources are being wasted, and the same or greater outputs could be achieved with the same or fewer resources. Thus, addressing sources of inefficiency will generate fiscal space.

Those studies which do consider efficiency as a significant source of fiscal space for health do not generally provide estimates of the

monetary value of resources likely to be made available through improved efficiency. There are some exceptions to this general trend, such as studies by Mathonnat and Okwero et al (2010) [6, 13]. In a sample of 36 LMICs in Africa, Mathonnat [6] estimates that the median cost of inefficiency (or potential efficiency gain) is US\$8 per capita, higher than what could be gained from a budget reprioritization based on the Abuja target.

Studies discuss both allocative efficiency (where money is being optimally allocated) and technical efficiency (where the least amount of resources or the right combination of inputs produce a given mix of goods and services) [40].<sup>4</sup> The specific areas where reforms can lead to improved efficiency, and ultimately to generate fiscal space for health, mentioned most frequently in the studies reviewed here include the following:

- a) Pharmaceutical policies, including procurement, distribution, prescription, reimbursement and pricing;
- b) Provider payment systems, moving away from rigid input-based financing and linking payments to results;
- c) Human resource policies and management practices, specifically measures to reduce absenteeism;
- d) Government subsidies, specifically ensuring that any such subsidies are well targeted and reach poorer populations;

---

4 Tandon and Cashin [2] provide a list of major sources of inefficiency in the health system, which would be important to examine as part of fiscal space analysis. This includes the following: rigid public finance systems that impede reallocation of funds to areas of highest need; low capacity to utilize existing funds; inappropriate allocation of spending across care levels where preventive and primary care are often underfunded; spending gaps across regions and the typical bias of spending toward urban area; corruption; and leakages from the system, including absenteeism among public sector workers.

- e) Public financial management reforms, particularly focusing on improved budget execution.

Spending on pharmaceuticals is found to be one of the most significant sources of inefficiencies according to this review; For instance, the study on Vietnam cites a government internal audit which references losses associated with procurement, and specifically bidding, that amounted to approximately US\$1 million [32].<sup>5</sup> Similarly, for Morocco, it is estimated that the lack of an effective price regulation system and weaknesses in the supply chain result in large inefficiencies and have limited authorities' ability to reallocate health resources [41].

Reducing waste caused by uncapped, open-ended payment mechanisms is frequently observed as another possible source for fiscal space for health expansion. For example, in Gabon, provider payment mechanisms based on fee-for-service is likely to result in supplier-induced demand and significant increases in per capita spending by the CNAMGS (National Health Insurance and Social Security) [34]. Similarly, in Nepal and Ghana, studies find that gradual change in the provider payment system could be utilized to incentivize hospitals to improve efficiency and to ultimately free-up significant resources for the sector [20, 21].

Discussions of provider payment mechanisms are linked to discussions of human resource policies, health worker motivation, performance and absenteeism. Whatever the root causes of absenteeism, it appears

to be another significant source of observed inefficiencies in countries included in the current review. In Uganda, it is also estimated that health worker absenteeism is the greatest source of waste, or approximately one-third of the wage bill for primary care [13].

The findings from Ghana show the value of targeting government subsidies. As Schieber et al [20] argue, improved targeting of the government subsidy for national health insurance membership would free up significant government resources. The study suggests that almost 50% of non-contributors are estimated to be in the top two wealth quintiles [20]. A study in Gabon also alludes to this, pointing to a probable need to refocus government subsidies on the poorest [34].

While public financial management issues are implicit in most of these studies, especially in contexts characterised by low levels of health budget execution, only a few provide detailed analysis of what causes blockages and delays in public spending on health. A study of the DRC shows that improved execution of health expenditure is a significant factor in increasing fiscal space for health. Barroy et al 2016 [17] estimate that by increasing execution from the 2012 – 2013 levels of 32.3% and 41.7% up to 80%, potential gains could be as high as 1.3% of GDP, all else being equal. The execution of government expenditure from domestic sources is closely linked to the ineffectiveness of inter-fiscal transfers in the DRC, highlighting another issue mentioned in several other studies.

## METHODS

The methods used to measure efficiency and to estimate monetary value of efficiency-enhancing measures vary significantly across the studies reviewed, reflecting more broadly

---

5 The audit found that tender prices are 47–357 % higher than the actual winning bids, and that prices of the winning bids are often higher than prices offered by unsuccessful bids [22].

the methodological challenges faced in health policy research to measure inefficiency [42] (Table 3).

Quantitative assessment using Data Envelopment Analysis (DEA) is used in the Cameroon, Ethiopia, Madagascar, and Tanzania studies, although only Cameroon and Madagascar present detailed results. In the Tanzania [24] and Ethiopia [37] studies, the authors convert DEA efficiency scores into potential for efficiency gains. For a sample of nine LMICs countries, Mathonnat 2010 [6] uses DEA scores to estimate implicit fiscal space for health in terms per capita health expenditure. Nigeria, Peru and Zambia use existing studies but with few further details. In the Uganda study, for example, the authors estimate waste by cause of inefficiency in absolute terms and then sum across sources to provide a single figure. Here, methods of estimation depend on the cause of inefficiency. For example, to estimate gains from a payroll clean-up exercise the study uses survey information on the proportion of

“ghost” workers on the payroll and the budget information on wages. A different method is used to calculate waste from drug leakages.

Mixed methods approaches have also been used, employing qualitative assessment supplemented with quantitative analysis of one or more sources of inefficiency. With regard to the quality of the analysis presented, including the provision of sufficient details to make findings actionable, this is the most diverse group. Almost all of the studies in this category use national and/or international benchmarking in comparing health outcomes and spending. In the studies using this approach, the observed variance in performance across different geographic units is used to identify “the good, the bad and the ugly” and then to examine expected gains that could be derived from improvement measures (e.g. Bhutan, Indonesia and Nepal). Variation in prices of pharmaceuticals across districts, or the difference between international reference prices (IRPs) and average medicine prices in the country are identified as key

**Table 3: Overview of methods: efficiency**

Type of analysis	Main criteria	Studied countries
Quantitative assessment using Data Envelopment Analysis (DEA)	Change in public spending on health in per capita or absolute terms or as proportion of total health expenditure	<ul style="list-style-type: none"> <li>- Cameroon, Ethiopia Madagascar, Tanzania</li> <li>- Nigeria, Peru, Zambia</li> </ul>
Quantitative assessment of waste by source using various methods	Savings from tackling different causes of inefficiency as proportion of total health expenditure and/or in absolute terms	Uganda
“Mixed methods”: qualitative assessment supplemented with quantitative analysis	<ul style="list-style-type: none"> <li>- Variation in performance in terms of health outcomes and spending globally or within a country among various geographic units</li> <li>- Magnitude of waste is assessed and demonstrated by cause (for example, the rate of absenteeism)</li> <li>- Comparison of allocations with actual spending</li> </ul>	Bangladesh, Bhutan, Chad, DRC, Ghana, Gabon, Indonesia, Nepal, Rwanda, South Africa, Vietnam
Qualitative description of sources of inefficiency	<ul style="list-style-type: none"> <li>- No specific criteria</li> </ul>	<ul style="list-style-type: none"> <li>- Cote d’Ivoire, Ecuador, Morocco</li> <li>- Caribbean cross-country study</li> </ul>



indicators of existing waste in several of the studies. In these, the quantitative analysis of variation is supplemented with more qualitative diagnosis of pharmaceutical procurement and distribution systems as well as prescription practices, shedding light on key areas where efficiency gains can be made. Various methods of data collection and sources of data are used, including internal audit reports, facility records, and overviews of laws and regulations.

While also based on a “mixed methods” approach, many studies included in this review do not attempt to provide estimates of potential efficiency gains in monetary terms. Using the approach suggested by Tandon and Cashin (2010), the authors of these studies examine a range of indicators, including: variation in per capita funding across geographic units and in salary levels; proportion of health sector budget that is non-discretionary; rate of health worker absenteeism; and service coverage rates. While efficiency gains are not described in financial terms, such analyses are still able to demonstrate the magnitude of the losses from existing inefficiencies. According to the results of one survey cited in the study on Indonesia, the rate of absenteeism among medical workers is 40%, providing evidence that spending on human resources is not always translated into health system inputs [29]. The Bangladesh study also cites absenteeism numbers to demonstrate the scale of the problem and implied waste [43]. The study on Ghana provides a qualitative assessment that is supplemented with relevant data. For example, it shows that a large proportion of exempt individuals are actually in the top two wealth quintiles, suggesting that better targeting of exemptions would free up those resources for other uses [20].

Some studies provide a very cursory analysis of efficiency which makes it difficult to assess the methods employed. The Peru [18] and Zambia [44] studies, while presenting estimates of the monetary value of implementing efficiency measures, do not provide any detail regarding the main sources of inefficiency or how those might be tackled. The Peru study authors [18] cite the IMF analysis on efficiency of public spending in the health sector, where Peru figures among the top performers. Improving efficiency may therefore not be an important source of fiscal space in Peru (unlike macro-fiscal conditions and health sector specific funds) which may account for lack of a more in-depth analysis in the study. A study on Cote d’Ivoire mentions efficiency as a source of fiscal space and suggests that decreased spending associated with the management and administration of HIV/AIDS services could free up funds which could be used productively elsewhere in the health sector [14]. However, the study does not go beyond this very brief treatment of efficiency.

## EXTERNAL RESOURCES

### RESULTS

While studies from the 2000s have shown large inflows of donor assistance for health (DAH) in Benin, Burkina Faso, Ethiopia, Ghana, Mali and Sri Lanka [6], in the majority of post-2010 studies, DAH is not identified as a potential source of fiscal space for health expansion.

The attention paid to DAH varies greatly across studies, due primarily to the economic context of the country in question. For example, most low-income, sub-Saharan African country

studies reference donor assistance in their analyses; however, middle-income countries like Gabon or South Africa give only brief attention to it [34, 36]. This lack of focus may also be due to fungibility or crowding out issues<sup>6</sup>, which show that an increase in DAH can be correlated with a decrease in public expenditure on health in relative or absolute terms [46-48].

In countries where DAH continues to play a significant role in financing the health sector, it is not forecast to be a potential source for fiscal space for health *expansion* (e.g. Bhutan, Burkina Faso, Cote d'Ivoire, Mozambique, Uganda and Zambia). The Uganda study stresses the fact that while donor funds are projected to increase, they will be primarily off-budget and therefore not under the discretion of the government, or well-coordinated across the sector [13]. In Burkina Faso the potential for fiscal space for health from donor funds is based on a global commitment to increase aid for Africa in general [49]. It cannot therefore be considered in any budgeting or planning exercises, due to its non-binding nature.

The issue of aid saturation is often referenced, along with suggestions that there is no reasonable expectation for future increases beyond current levels (e.g. Chad, DRC and Rwanda). For example, the author of the Rwanda study concludes that after a tripling of nominal aid for health per capita

in Rwanda between 2005 and 2008, there is no reason to expect further aid increases [12]. Many authors conclude not only that DAH is unlikely to increase, but explicitly state expectations of decline. For example, recent quantitative analysis of fiscal space for health in Tanzania builds an assumed 5% annual decline in external assistance into the model [24]. Ghana also demonstrates that a predicted decline in donor support for health is expected beginning in 2011 [20].

The time horizon relative to this source of potential fiscal space is of particular interest. For example, donor support in Rwanda is expected to be an important source of fiscal space for health expansion in the short-term, but to decline farther out [12]. A similar dynamic is presented in the Ghana study, which recognizes the relative importance of DAH for health in the short-term, but cautions against reliance on this source in the future [20]. Total DAH in Bhutan is also expected to decline from 9% of GDP in 2012-2013 to 6% in 2017-2018 [35]. In DRC, total development assistance for all sectors is forecast to shrink from 4.4% of GDP in 2013 to 1.3% by 2030 [17].

Several studies specifically state that due to the income level of the country under consideration they would not even consider DAH in their analysis (e.g. Peru and Indonesia). These assessments are based on current donor inflows, countries' current income levels, as well as future growth projections. In general, those countries classified as either lower-middle-income (e.g. Indonesia) or upper-middle income (e.g. Gabon and South Africa) do not consider DAH to be a significant source of fiscal space. For example, as oil-producing countries, the Republic of Congo and Equatorial Guinea are almost entirely independent of external

---

6 In that particular case, fungibility occurs when external aid changes the allocation of government revenues and/or its efforts to raise its own revenue. DAH might substitute for domestic public spending on health for particular health subsectors. DAH can be completely not fungible (i.e. the government budget increases by the amount of the assistance), partly fungible (i.e. the government budget is adjusted by diverting some funds to other sector or sub-sector priorities; or DAH can be completely fungible (i.e. the government reduce its budget by the amount of aid received) [45].



grants for financing fiscal space, and are not likely to receive substantial additional grants in the near future [50].

## METHODS

As described in Table 4, the primary method employed to assess DAH as a potential source of fiscal space for health has been to compare current levels of external assistance for health with trends over time. Indicators used include external assistance for health as a share of total health expenditure, external assistance for health as a share of GDP, and external assistance for health per capita. In examining trends over time, analyses focus on historical trends in external assistance either for a country as a whole or specifically for the health sector. The other points of comparison are regional or income-based similarities. The current level of DAH is typically compared to that of countries that are geographically proximate or of a similar income level. These comparisons provide analysts with benchmarks to assess the likelihood or feasibility of fiscal space for health expansion based on DAH. The more in-depth country studies provide a breakdown of DAH by donor (e.g. DRC and Vietnam), by

the intended purpose of the funds (e.g. Cote d'Ivoire), or by nature of funding (whether the funding is on- or off-budget, Uganda is a good example).

Several studies invoke the global economic context in predicting whether external assistance can be a driver of increased spending on health. Regional studies of Caribbean and Arab countries examine global issues, particularly focused on how to replace current levels of external assistance for health with domestic sources in countries where income levels are rising and disease burdens are decreasing [51, 52]. Despite the focus on predicted aggregate declines in DAH, studies of oil producing Arab countries and Nigeria stress the potential for oil revenues to act as a source of financing and donor assistance [52, 53]. One study on Burkina Faso analyses the potential for increased external assistance based on global donor commitments, such as the Gleneagles commitment of 2004 which promised a doubling of overall aid to Africa by 2010.

Studies on Bhutan, DRC, Ghana, Guinea, Rwanda, Uganda and Zambia, use more quantitative projections in their modelling

**Table 4:** Overview of methods for External Resources for Health

Type of analysis	Main criteria	Countries
Comparative analysis based on trends or comparator countries/global averages	<ul style="list-style-type: none"> <li>- External assistance for health as share of total health expenditure</li> <li>- External assistance for health as share of GDP</li> <li>- External assistance for health per capita</li> </ul>	<ul style="list-style-type: none"> <li>- Bhutan, Bolivia, Botswana, Brazil, Chad, Costa Rica, Cote d'Ivoire, DRC, Equatorial Guinea, Gabon, Ghana, Indonesia, Lesotho, Mali, Namibia, Nepal, Republic of Congo, Rwanda, Senegal, South Africa, Thailand, and Vietnam</li> </ul>
Qualitative assessment based on projections of changes in global DAH trends due to forecasted macroeconomic trends	<ul style="list-style-type: none"> <li>- Projection of global trends in DAH due to global economic growth forecasts</li> </ul>	<ul style="list-style-type: none"> <li>- Nigeria</li> <li>- Arab, Caribbean cross-country studies</li> </ul>
Quantitative, projection based assessment	<ul style="list-style-type: none"> <li>- Quantitative projections of DAH future trends using budget data</li> </ul>	<ul style="list-style-type: none"> <li>- Bhutan, DRC, Ghana, Guinea, Rwanda, Uganda, and Zambia</li> </ul>

to assess overall Overseas Development Assistance (ODA) or specific DAH sources. These studies do not rely on qualitative judgments of quantitative comparisons, but

specifically reference medium-term Ministry of Finance projections for the overall budget or for the health sector in particular.

# DISCUSSION

Most of the reviewed studies structure their analysis around the five sources of fiscal space identified by Tandon and Cashin: macro-economic conditions, budget re-prioritization toward health, ear-marked funds, efficiency enhancements and DAH. In the absence of consensus regarding methods and metrics, the analytical approaches and metrics used to assess those sources vary across studies, especially for measuring efficiency gains and ear-marked funds. Despite methodological and contextual variations, there is a degree of consensus regarding the possible drivers of fiscal space for health expansion.

## RELEVANCE OF RESULTS FOR POLICY

The review reveals the valuable contribution that fiscal space for health studies can make to contextualising health financing within each country's macro-fiscal environment. Such efforts are critical to supporting countries facing financing challenges on their path to UHC. The review also highlights some convergence on factors that can potentially lead to significant fiscal space for health expansion. For example, the studies reveal a degree of consensus regarding the idea that economic growth, budget reprioritization and efficiency improving measures are the major drivers of fiscal space for health expansion; that is to say, the sources that offer the greatest scope for change in public expenditure on health.

Overall, fiscal space for health studies provide valuable policy orientation to both health and finance authorities. For example, when growth is expected in a given country to be a significant driver of fiscal expansion, including for health, this form of analysis can provide estimates regarding the size of expected sector inflows. This can improve predictability, which in turn allows for better planning and budget realization. Conversely, in contexts with limited prospects for fiscal expansion related to macro-economic conditions, studies can guide budgeting decisions by providing in-depth insights into the possible misalignment between stated priorities and actual health spending. They can also offer valuable perspective regarding the potential upside of budgeting decisions that favour the sector.

When studies include efficiency as a concomitant imperative to injecting additional resources, they contribute to advancing health and finance dialogue on improving the execution and efficient use of existing, and possibly forthcoming, resources for the sector. Even without necessarily quantifying the gains, studies offer valuable indications on ways to improve the efficiency of health spending. As noted above, the most prominent or frequently mentioned among these are: (i) pharmaceutical policies, including procurement, distribution, prescription, reimbursement and pricing; (ii) provider payment systems, moving away from rigid input-based financing and linking payments to results; and (iii) human resource policies and management practices, specifically measures to reduce absenteeism.

Surprisingly, budget execution and its causes receive less attention in the fiscal space studies reviewed here.<sup>7</sup>

The evidence is fairly consistent that earmarked funds do not have the prospect of leading to sustained, long-term expansion in fiscal space for health. In particular, there is little indication that public health taxes are likely to bring sizeable gains relative to the other possible sources. Of the eight studies that specifically assess the potential of public health taxes, only one identifies significant gains to be derived from increases in the retail price of tobacco. In line with a forthcoming WHO study [30], these findings provide new insights regarding the potential limitations attached to earmarked funds, and should be of possible interest for countries that are considering such, often called, “innovative” mechanisms as a way to subsidize the funding of health coverage. Similarly, the findings regarding the limited potential from social health insurance contributions should further inform the design of health financing policies, particularly in countries that are currently exploring similar employment-based options to generate extra resources for the sector.

DAH can, in some circumstances, such as fragile states or very low-income settings, provide an important source of financial support for the health sector, as stated in some of the reviewed studies. However, there is a broad recognition in the fiscal space for health literature that sustainable

increases in fiscal space for health will come from domestic funding. Current discussions regarding the transition away from aid and the increased focus on resilient and sustainable health system investments reflect this global refocusing, and therefore the need to concentrate future study efforts on those gains from domestic sources first and foremost.

## METHODOLOGICAL CHALLENGES

The undertaking of fiscal space for health analysis presents a number of challenges related to both methodology (e.g. choice of indicators, type of analysis, data quality) and process.

First, with regard to methodology, some analytical approaches appear to be more relevant than others. Across the reviewed studies, approaches that start with estimating the “funding gaps” against perceived needs that give limited consideration to current macro-fiscal constraints and opportunities seem the least relevant. Moreover, the results of such analyses provide incentives to focus solely on revenue-generating mechanisms, rather than on necessary improvements in the allocation and use of the existing resources.

Related to this, the lack of commonly agreed metrics to assess and measure fiscal space for health also affects the quality of the evidence. In the absence of reliable evidence there is a tendency to use global or regional spending targets in an attempt to quantify the gap between current spending and a perceived optimal level of funding. Such an approach encourages the view that fiscal space is only a matter of needs and demand for additional

---

7 A recent report on public financing for health in Africa shows though that the proportion of unspent health budget ranges from 10 to 30% of authorized allocations in African countries, with some outliers (such as DRC) getting close to 60%. The report further estimated that the failure to fully execute budgets results in a significant fiscal loss for the sector, with unused budgetary space ranging from US\$10 to 100 million per year [54].

funding. Recognizing that reaching a certain level of spending is not an aim in itself for health financing reforms is increasingly important for more robust and credible projections [55]. More work is therefore needed to define a set of core indicators that could be used to assess each source of fiscal space for health expansion in a more reliable and policy-oriented manner.

Second, the challenges facing fiscal space for health studies mirror the overall difficulty encountered in assessing efficiency in the broader health policy literature [42]. The efficiency analyses in studies reviewed here were not always based on clear methods, nor were they always informative or provided actionable policy recommendations. To provide useful guidance for policy-makers, efficiency analysis has to be of sufficient depth and detail for an analyst to have a strong understanding of the country's health system and overall governance and public finance issues.

Third, the lack of appropriate or reliable data for analysis has been a common constraint for fiscal space for health studies leading to approximations or misleading results in some cases. These include: variable quality of revenue projections; misuse of budget allocations and actual expenditure data in estimating prioritization; lack of disaggregated public expenditure data by administrative level/geographic entity; mixed quality of foreign expenditure data; and lack of projections.

If the quality of fiscal space for health studies is to improve, the availability, adequacy and use of quality public expenditure data, including those in national health accounts, should be strengthened at both country and global levels. Similarly, estimating

or assigning monetary value to reforms improving efficiency is difficult and requires detailed analysis and data collection. The data required for such an analysis is often not readily available. As a result, many studies rely on qualitative assessments to make judgments about the potential for a given source to generate additional revenues for the health sector.

Last, because some studies are not sufficiently anchored in policy contexts, many unknowns remain on how to leverage the assessed potential to support productive policy dialogue and transform potential into actionable reform. Most studies do not present substantive analysis of political economy considerations that could potentially support the realization of fiscal space for health in practice, especially in regard to budget reprioritization and introduction of new taxes, which are, above all, political considerations. Recent evidence confirms the extent to which modification of the share of health in government expenditure is often linked to complex political economy considerations rather than what might be termed economic rationality [32, 40].

Similarly in regard to ear-marking, very few studies explore the conditions under which these measures are effectively implementable. Exploring the potential benefit of earmarked funds without systematically considering fungibility of revenues and the adequacy of the public financial management systems needed to translate an extra supply of funds into actual higher spending for health does not provide realistic, evidence-based guidance to policymakers on the potential for future resource allocations. From an intersectoral perspective, many studies assume that earmarked revenues for health will all be additive, without taking into consideration the

reality that finance authorities might reallocate other general revenue sources away from health towards other sectors. Intrasectorally, earmarking may also introduce rigidities into the health sector budgeting process that limit adaptability to evolving population health needs and priorities. Additional work is therefore needed to clarify how and under what conditions each possible source can effectively increase fiscal space for health in practical terms in every country context.

## MAIN LESSONS AND WAYS FORWARD

From this review, a number of lessons have emerged regarding both the proper object of fiscal space for health analysis (i.e. “what to analyse”), and the process through which the analysis is best undertaken and ultimately used as input into policy formation (i.e. “how to do the analysis”). These lessons serve as the basis for the ongoing development and application of fiscal space for health as a concept, and the analytical approach to assessing potential resources for the health sector.

The first lesson emerging from the review of “what to analyse” is the need to adapt the analytical approach to country context. Each potential source does not need to be explored in detail in all contexts. Instead, after assessing the macro-fiscal outlook, analysis should prioritize and focus on the major viable driver(s) of fiscal space for health expansion. For example, in a country with low macro-economic prospects, existing public health taxes and limited budget prioritization for health, analysis should focus on budget-related issues, including the quality and alignment of multi-year budget planning for the sector, definition of annual budget

priorities, budgeting practices, possible sector re-allocations, and mid-year re-allocations. While focusing on country policy priorities, analysts should also not lose sight of the possible connections between the different sources of fiscal space for health. For example, understanding the relation between budget re-prioritization and revenue growth on the one hand, and efficiency gains on the other, is critical to capturing the essential dynamics of fiscal space expansion in a given country. Empirical evidence shows that the relations can go either way.

Another important parameter is the critical role played by general revenue-generating mechanisms that have often been overlooked in past studies. This is particularly true of tax policies and tax administration improvements, as well as tax avoidance and evasion reduction. Although not specific to health, general taxation is of fundamental importance to overall fiscal space expansion and should be explored more systematically in future studies. While understanding the income growth effect on the supply of government revenues is an important parameter, in contexts of low tax-to-GDP ratios, analytical efforts should also examine how improvements in the effectiveness and efficiency of tax collection systems, in parallel to broadening the tax base and/or increasing rates, can lead to fiscal space for health expansion. If budget priority is maintained, improved taxation is likely to be one of the major sources of gains for the sector. The absolute size of gains can be measured against the projected level of revenues. Putting more emphasis on general tax policies would require further collaboration between health and finance authorities, at both the analytical and policy levels.

A third important lesson is the need to approach and assess fiscal space for health

expansion not just from the point of view of raising funds but from an expenditure management perspective. While conducting fiscal space for health analysis was inherently driven by the need for new resources in the MDG era, addressing inefficiencies was not necessarily portrayed as a prerequisite for bringing additional resources to the health system. As some of the past studies have shown, fiscal space for health can be expanded not just by tapping into additional resources, but by optimizing the way existing resources are planned, allocated and utilized. Future analysis can look at possible improvements in budgeting and execution practices, and measure the possible gains to be expected from practical improvements<sup>8</sup>. Analysing key bottlenecks and possible remedies at each step of the health budgeting and expenditure process is both useful from a health sector perspective and also provides a solid basis for discussions of fiscal space expansion with finance authorities.

Turning now to question of “how to do the analysis”, it is important to use technically sound methods and metrics. For macro-economic conditions for example, studies that opt for absolute measures like per capita indicators are able to demonstrate the size of the envelope that will potentially grow (i.e. increases in real per capita public spending on health), even when health’s share in government budget remains constant. In

periods of good macro-economic performance and overall fiscal expansion, shifting attention to the level (i.e. the amount in absolute terms), and not the ratio, is critical to making funds inflows more visible to health stakeholders. It is important to note that de-prioritization can coincide with increases in per capita spending on health. When re-prioritization is assessed, the use of scenarios instead of fixed targets to model possible change in budget priorities seems to be of most value for budget policy making. It also permits the weighing of political choice against financial estimates. Cashin provided further guidance on the main indicators to be looked at when assessing macro-economic, fiscal and public finance context of health financing policies [57].

With respect to earmarking, combining absolute and proportional estimates for likely additional funds is important to account for possible increases in funds and also to position those gains within the broader picture of the overall health budget, and in particular the likelihood of some degree of offsetting reallocations of discretionary revenues away from health. This points to the importance of considering all sources of revenue together and not just assessing a single revenue stream in isolation, as allocation decisions are inter-related from a finance perspective.

With regard to efficiency, a combination of qualitative (i.e. deep dive into health expenditure performance using a structured system-wide approach) and quantitative approaches (i.e. estimates of possible output gains against levels of inputs) seem to provide the most useful findings for policy purposes. The system-wide framework for analysing the efficiency of the health sector resource use proposed by Yip and Hafez [40] may be useful in ensuring a more systematic and policy-oriented approach to efficiency analysis.

---

8 Key questions include, how can multi-year expenditure frameworks be better defined and realized so that annual health budget allocations are as aligned as possible with multi-year operational and revenue planning tools to increase predictability and preparedness to implement, and ultimately reduce unused fiscal space? How can health budgets be better formulated and structured to reflect key sector priorities and enable effective purchasing of services? How can execution systems and capacities be strengthened to make full use of the available resource envelope for the sector? [56].



Another useful framework for analysing inefficiencies in the delivery of priority health services (for example, TB, HIV/AIDS, RMNCH) to identify “cross-programmatic” duplications and misalignments is being developed by Sparkes et al [58].

Because fiscal space for health studies are intended to project implementable expansion, they should be strongly anchored in existing fiscal and policy environments. Analyses can gain in credibility and applicability if they provide more detailed, policy-oriented analysis that can enable policy action and allow for the realization of each potential source of fiscal space for health expansion. As mentioned earlier, efficiency analysis, along with assessments of earmarked revenue sources, would benefit from a more detailed, structured and systematic approach to inform policy design. Studies will also benefit from increased integration into the budgeting process and timeframe. An important way forward for most countries would be to systematize and internalize this type of analysis within multi-year health expenditure frameworks that are defined jointly by finance and health authorities. In this way the analyses could maximize opportunities for change toward more health prioritization if need be and also improve predictability in the resource envelope for the sector and ultimately reduce “unused” fiscal space.

## REVIEW LIMITATIONS

The paper has three main limitations. First, because the purpose of this review was to examine those studies that looked broadly at financing for the health sector by examining multiple sources of potential fiscal expansion, studies which only examined one source of fiscal space were not included, which could result in missing some findings and methodological advances. Second, due to the rapidly growing number of studies focusing on fiscal space for health, the review has probably failed to capture more recent studies, and particularly those published after the initial search was completed. However, efforts were made to identify new studies by contacting organizations which typically support these types of analyses. Third, the review is for the most part qualitative in nature. Variations in methodological approaches used in fiscal space for health studies have not allowed for a quantitative assessment or a meta-analysis. Therefore, the review does not provide consolidated estimates of potential expansion by source of fiscal space for health; it draws, as rigorously as possible, lessons learnt from country studies, without bringing global estimates for any source.



# CONCLUSIONS

This paper is the first attempt to synthesize findings from fiscal space for health studies in LMICs and to systematically assess the quality of the existing evidence. The review provides an overview of the projected sources of fiscal space for health expansion in 44 LMICs. The paper also analyses methodological approaches used to assess fiscal space for health expansion by each source, identifying the common strengths and weaknesses of existing methods.

The findings of the review point to the value of this analytical approach in supporting health financing policy dialogue. It underlines the need to increasingly use fiscal space for health analysis as a means of informing realistic health financing reforms within the context of macro-fiscal constraints and opportunities.

The review also calls for refinements in methodological approaches in order to strengthen the relevance and applicability of studies' results. First, a more effective approach, more systematically embedded in routine domestic budgeting processes

that explicitly consider policy and political economy contexts, is needed to enhance the policy relevance and use of studies. Second, in order to better support policy formation, future studies should be more contextualized and focused on the major potential drivers of fiscal space expansion according to country parameters. They should also explore in detail the conditions under which the specific source or sources could in practice lead to fiscal space for health expansion. Further guidance is needed to provide clarity on how to effectively estimate and measure expansion of fiscal for health for each source in a way that can better serve policy dialogue. Third, more systematic attention should be placed on assessing possible gains from an expenditure perspective, either concurrently or as a pre-requisite for the introduction of purely revenue-generating mechanisms. Additional guidance is needed regarding how to define and measure the gains to be derived from enhancements in public expenditure on health management, gains that would inevitably result in freeing up resources for the sector.

## REFERENCES

1. Thomson S, Figueras J, Evetovits T, Jowett M, Mladovsky P, Maresso A, et al. Economic crisis, health systems and health in Europe. European Observatory on Health Systems and Policies, editor. New York: World Health Organization; 2015.
2. Heller P. Understanding fiscal space. Washington, DC: International Monetary Fund, 2005.
3. Burnside C, editor. Fiscal sustainability in theory and practice. Washington, DC: World Bank; 2005.
4. Heller PS. The prospects of creating 'fiscal space' for the health sector. *Health Policy and Planning*. 2006;21(2):75-9.
5. Tandon A, Cashin C. Assessing Public Expenditure on Health From a Fiscal Space Perspective. Washington, DC: World Bank, 2010.
6. Mathonnat J. Disponibilité des ressources financières pour la santé dans les pays d'Afrique subsaharienne. France: Agence Française de Développement Département de la Recherche, 2010.
7. Roy R, Heuty A, Letouze E. Fiscal space for what? Analytical Issues from Human Development Perspectives. Paper for the G20 Workshop on Fiscal Space. Istanbul: UNDP; 2007.
8. Gillingham R. Fiscal policy for health policy makers. Washington, DC: World Bank, 2014.
9. Kutzin J, Yip W, Cashin C. Alternative financing strategies for universal health coverage. *World Scientific Handbook of Global Health Economics and Public Policy*: World Scientific; 2016. p. 267-309.
10. McIntyre D, Meheus F. Fiscal Space for Domestic Funding of Health and Other Social Services. London: Chatham House, 2014.
11. Powell-Jackson T, Kara Hanson, Di McIntyre. Fiscal space for health: a review of the literature: Working Paper 1. London: RESYST, 2012.
12. Lane C. Rwanda: Fiscal Space for Health and the MDGs Revisited. Washington, DC: World Bank, November 2009.
13. Okwero P, Tandon A, Sparkes S, McLaughlin J, Hoogaven J. Fiscal Space for Health in Uganda. World Bank Working Paper No. 186. Washington, DC: World Bank, 2010.

14. Levin A, Hang H, Saleh K. Cote D'Ivoire HIV/AIDS Financial Sustainability Study. Washington, DC: World Bank.
15. International Monetary Fund and World Bank. Fiscal policy for growth and development: an interim report. Washington, DC: Development Committee, 2006.
16. Pan American Health Organization. Fiscal space for increasing health priority in public spending in the Americas Region. Washington, DC: 2015.
17. Barroy H, Andre F, Mayaka S, Samaha H. Investing in Universal Health Coverage: Opportunities and Challenges for the Democratic Republic of Congo. Washington, DC: World Bank, 2014.
18. Matus M, Prieto L, Cid C. Evaluating fiscal space for health in Peru. Washington, DC: WHO/PAHO, 2015.
19. Zine Eddine El Idrissi M, Ibrahim M, Ganiou M. République de Guinée: Analyse de l'espace budgétaire du secteur de la santé.
20. Schieber G, Cashin C, Saleh K, Lavado R. Health Financing in Ghana. Washington, DC: World Bank, 2012.
21. Belay T, Tandon A. Assessing fiscal space for health in Nepal. Washington, DC: World Bank, 2011.
22. Somanathan A, Tandon A, Dao L, Hurt K, Fuenzalida-Puelma H. Moving toward Universal Coverage of Social Health Insurance in Vietnam: Assessment and Options. Washington, DC: World Bank; 2014.
23. Diack A, Barroy H, Kasonde L, J P, Zine Eddine El Idrissi M, Robyn P, et al. Republic of Chad Country Status Report: Health System Overview: Better Health Coverage in the Oil Era? Washington, DC: World Bank, 2013.
24. James C, Lievens T, Murray-Zmijewski A, Aikaeli A, Booth P. Fiscal space for the Tanzanian health sector. Oxford Policy Management, 2014.
25. Abuja Declaration on HIV/AIDS, Tuberculosis and Other Related Infectious Diseases, Organisation of African Unity(2001).
26. Commission on Macroeconomics and Health. Macroeconomics and Health: Investing in Health for Economic Development. Geneva: World Health Organization, 2001.

27. Røttingen J, Ottersen T, Ablo A, Arhin-Tenkorang D, Benn C, Elovainio R, et al. Shared Responsibilities for Health: A Coherent Global Framework for Health Financing. London: The Royal Institute of International Affairs, 2014.
28. Ichoku HE, Okoli CI. Fiscal Space for Health Financing in Nigeria. *African Journal of Health Economics*. 2015;AJHE-2015-0002.
29. Tandon A. Giving more weight to health: assessing fiscal space for health in Indonesia. Washington, DC: World bank, 2009.
30. Cashin C, Sparkes S, Bloom D. Earmarking revenues for health: in theory and in practice. Geneva: World Health Organization, 2017.
31. Achadi A, Soerojo W, Barber S. The relevance and prospects of advancing tobacco control in Indonesia. *Health policy*. 2005;72(3):333-49.
32. Somanathan A, Tandon A, Dao HL, Hurt KL, Fuenzalida-Puelma HL. Moving toward universal coverage of social health insurance in Vietnam: assessment and options: World Bank Publications; 2014.
33. World Health Organization. WHO technical manual on tobacco tax administration. Geneva: World Health Organization, 2011.
34. Saleh K, Couttolenc BF, Barroy H. Health financing in the Republic of Gabon. Washington, DC: World Bank, 2014.
35. Sharma J. An assessment of fiscal space for health in Bhutan. *International journal of health planning and management*. 2016;31(3):296–308.
36. Regondi I, Whiteside, A. Fiscal Space for Health: Assessing Policy Options in South Africa. *Journal of Contemporary Management*. 2012:14-26.
37. Murray-Zmijewski A. How to finance UHC in Ethiopia? Oxford: Oxford Policy Management, 2015.
38. Gupta I, Mondal S. Health spending, macroeconomics and fiscal space in countries of the World Health Organization South-East Asia Region. WHO. 2014:273.
39. Gupta S. Creating Fiscal Space for Investment in Health: Macro-Fiscal Perspective. PAHO/WHO Regional Forum “Universal Health: An indispensable Investment for Sustainable Human Development” Washington, DC: Fiscal Affairs Department, IMF; 2015.
40. Yip W, Hafez R. Reforms for improving the efficiency of health systems: lessons from 10 country cases. Geneva: World Health Organization, 2015.

41. Oxford Policy Management. How to reform health financing in Morocco to reach UHC. forthcoming.
42. Smith P. What is the scope for health system efficiency gains and how can they be achieved? *Eurohealth: Quarterly of the European Observatory on Health Systems and Policies*. 2012;18(3):3-6.
43. World Bank. Fiscal space for health in Bangladesh: towards universal coverage. Washington, DC: World Bank, 2016.
44. Aguzzoni L. The concept of fiscal space and its applicability to the development of social protection policy in Zambia. Geneva: International Labour Organization, 2011.
45. Fairbank A. Fungibility of donor assistance to Liberia: focusing on aid to the health sector, a case study. Washington, DC: World Bank Group, 2014.
46. Dieleman JL, Hanlon M. Measuring the displacement of government health expenditure. *Health Economics*. 2014;23(2):129-40.
47. Garg CC, Evans DB, Dmytraczenko T, Izazola-Licea J-A, Tangcharoensathien V, Ejeder TT-T. Study raises questions about measurement of 'additionality,' or maintaining domestic health spending amid foreign donations. *Health Affairs*. 2012;31(2):417-25.
48. Benedek D, Crivelli E, Gupta S, Muthoora P. Foreign aid and revenue: still a crowding-out effect? *FinanzArchiv: Public Finance Analysis*. 2014;70(1):67-96.
49. Gottschalk J, Le VM, Lofgren H, Nogue K. Analysing fiscal space using MAMS (Maquette for MDGs): an application to Burkina Faso. Washington, DC: IMF, 2009.
50. Handley G. Fiscal space for strengthened social protection: West and Central Africa. London: Overseas Development Institute (ODI) 2009 February 2009. Report No.
51. Lalta S. Financing universal health coverage (UHC) in the Caribbean: the fiscal space issue. PAHO/WHO Workshop; Barbados: WHO/PAHO; 2012.
52. Roy R, Abu-Ismael K, Almeida Ramos R. Is there fiscal space for financing an Arab development transformation? Working Paper, International Policy Centre for Inclusive Growth, 2012.
53. Hagen-Zanker J, Tavakoli H. An analysis of fiscal space for social protection in Nigeria United Kingdom: Overseas Development Institute, 2012.
54. World Health Organization. Public financing for health in Africa: from Abuja to the SDGs. Geneva: World Health Organization, 2016.

55. Jowett M, Brunal MTP, Flores G, Cylus J. Spending targets for health: no magic number. Geneva: World Health Organization, 2016.
56. Rajan D, Barroy H, Stenberg K. Budgeting for health. Strategizing national health in the 21st century: a handbook. Geneva: World Health Organization; 2016.
57. Cashin C. Health financing policy: the macroeconomic, fiscal, and public finance context. Washongton, DC: World Bank Group, 2016.
58. Sparkes S., Durán A., Kutzin J. A system-wide approach to analysing efficiency across health programmes. Geneva: World Health Organization; 2017. (Health Financing Diagnostics & Guidance No 2).

# ANNEX 1

Table of studies included in the review (n=35)

Studies included in the review	Country(-ies)
Aguzzoni, L. The concept of fiscal space and its applicability to the development of social protection policy in Zambia. Geneva: ILO; 2011.	Zambia
Barroy, H, Andre, F, Mayaka, S. Investing in Universal Health Coverage: Opportunities and Challenges for the Democratic Republic of Congo. Health Public Expenditure Review. Washington, DC: World Bank; 2014.	DRC
Belay, Tekabe, Tandon, Ajay. Assessing Fiscal Space for Health in Nepal. Washington, DC: World Bank, 2011.	Nepal
Berman, Peter, Ahuja, Rajeev, Tandon, Ajay, Sparkes, Susan, Gottret, Pablo. Government Health Financing in India: Challenges in Achieving Ambitious Goals. NHP Discussion Paper. Washington, DC: World Bank, 2010.	India
Diack, A, Barroy, H, Kasonde, L, Puret, J et al. Republic of Chad Country Status Report: Health System Overview: Better Health Coverage in the Oil Era? Washington, DC: World Bank; 2013.	Chad
Duran-Valverde, F, Pacheco, J F. Fiscal space and the extension of social protection: Lessons learnt from developing countries. ESS Paper N 33. Geneva: International Labour Organization; 2012.	Bolivia, Botswana, Brazil, Namibia, Thailand, Costa Rica, Lesotho
Federal Ministry of Health – Ethiopia. Ethiopia Health Financing Strategy: Resource Mobilisation – Fiscal Space and Innovative Financing. Addis Ababa: Federal Ministry of Health; 2015.	Ethiopia
Gottschalk, J, Le, V M, Lofgren, H, Nove, K. Analysing fiscal space using MAMS: An application to Burkina Faso. IMF Working Paper WP/09/227. Washington, DC: IMF; 2009.	Burkina Faso
Handley, G. Fiscal space for strengthened social protection: West and Central Africa. Briefing Paper. London: Overseas Development Institute (ODI); 2009.	Congo, Republic, Equatorial Guinea, Mali, Senegal
Ichoku, H E, Okoli, C I. Fiscal Space for Health Financing in Nigeria. African Journal of Health Economics 2015; AJHE-2015-0002.	Nigeria
Indrani, Gupta, Mondal, Swadhin. Health spending, macroeconomics and fiscal space in countries of the World Health Organization South-East Asia Region. WHO South-East Asia Journal of Public Health 2014; 3: 273-284.	Bangladesh, Maldives, Myanmar, Sri Lanka, Timor-Leste
James, C, Lievens, T, Murray-Zmijewski, A, Aikaeli, J, and Booth, P. Fiscal space for the Tanzanian health sector. Oxford, UK: Oxford Policy Management; 2014.	Tanzania
Lalta, Stanley. Financing Universal Health Coverage (UHC) in the Caribbean: The Fiscal Space Issue. PAHO/WHO Workshop, Barbados, 22-23 October 2012.	Caribbean region
Lane, C. Rwanda: Fiscal Space for Health and the MDG Revisited. Washington, DC: World Bank; 2009.	Rwanda
Levin, A., Hang, H., & Saleh, K. Cote D'Ivoire HIV/AIDS Financial Sustainability Study. Washington, DC: World Bank.	Cote d'Ivoire
Lopez-Calix, J R, Melo, A. Creating Fiscal Space for Poverty Reduction in Ecuador: A Fiscal Management and Public Expenditure Review. Washington, DC: World Bank and the Inter-American Development Bank; 2005.	Ecuador
Mathonnat, J ; Disponibilité des ressources financières pour la santé dans les pays d'Afrique subsaharienne. France: Agence Française de Développement, Département de la Recherche; 2010.	Cameroon, Madagascar, cross-country LMICs

Studies included in the review (continued)	Country(-ies)
Matus, Mauricio, Prieto, Lorena, Cid, Camilo. Evaluating fiscal space for health in Peru. Washington, DC: Pan American Health Organization / WHO Regional Office for the Americas; 2015.	Peru
Ministry of Health and Social Welfare – United Republic of Tanzania. Health Sector Strategic Plan (HSSP IV) July 2015 – June 2020: Reaching all Households with Quality Health Care. Dar es Salaam: Ministry of Health and Social Welfare; 2015.	Tanzania
Morisse, Monique. Fiscal space for social protection in the Arab region. Working Paper E/ESCWA/OES/2013/WP.4. United Nations Economic and Social Commission for Western Asia (UN-ESCWA); 2013.	Arab region
Murray-Zmijewski, A. How to Finance UHC in Ethiopia? – Resource Mobilisation. Presentation. Oxford, UK: Oxford Policy Management; 2015	Ethiopia
Novignon, Jacob, Nonvignon, Justice. Fiscal space for health in Sub-Saharan African countries: an efficiency approach. MPRA Paper No. 63015. Munich: Munich Personal RePEc Archive; 2015.	Sub-Saharan Africa
Okwero, P, Tandon, A, Sparkes, S, McLaughlin, J, Hoogaven, J. Fiscal Space for Health in Uganda. Washington, DC: World Bank; 2010.	Uganda
Ooms, G, Philips, M. Fiscal space for health expenditure in Mozambique: blocking effectiveness of international funds through budget support. Presentation. Médecins Sans Frontières; 2008.	Mozambique
Regondi, I, Whiteside, A. Fiscal Space for Health: Assessing Policy Options in South Africa. Journal of Contemporary Management; 2012.	South Africa
Roy, Rathin, Abu-Ismaïl, Khalid, Almeida Ramos, Raquel. Is there fiscal space for financing an Arab development transformation? Working Paper No. 88. Leibniz: International Policy Centre for Inclusive Growth; 2012.	Arab region
Saleh, K, Couttolenc, B F, Barroy, H. Health Financing in the Republic of Gabon. Washington, DC: World Bank; 2014.	Gabon
Schieber, George, Cashin, Cheryl, Saleh, Karima, Lavado, Rouselle. Health Financing in Ghana. Washington, DC: World Bank; 2012.	Ghana
Sharma, J. An assessment of fiscal space for health in Bhutan. Int J of Health Plann MGMT. 2016; 31: 296-308	Bhutan
Somanathan, Aparnaa, Tandon, Ajay, Dao, Lan, Hurt, Kari L, Fuenzalida-Puelma, Hernan L. Moving toward Universal Coverage of Social Health Insurance in Vietnam: Assessment and Options. Washington, DC: World Bank; 2014.	Viet Nam
Vreeke, E, Kherbach, F, Blanchet, K, Ennaciri, M et al. Le financement de la santé au Maroc: Rapport intermédiaire révisé. Oxford, UK: Oxford Policy Management; 2014.	Morocco
Workie, N W, Fairbank, A, Agnew, A, Gonyon, E. Fiscal Space Analysis for Health in Liberia: A report by the World Bank Group in collaboration with Ministry of Health of Liberia, World Health Organization, and Clinton Health Access Initiative. Unpublished.	Liberia
World Bank Group. Fiscal Space for Health in Bangladesh: Towards Universal Coverage. Washington, DC: World Bank, 2016.	Bangladesh
World Bank. Giving More Weight to Health: Assessing Fiscal Space for Health in Indonesia. Washington, DC: World Bank, 2009.	Indonesia
Zine Eddine El Idrissi, M D, Ibrahim, M, Ganiou, M A. République de Guinée: Analyse de l'espace budgétaire du secteur de la santé. Unpublished.	Guinea



Governance of Health Systems  
and Aid effectiveness (HGS)

Health  
Financing (HEF)

Economic Analysis and  
Evaluation (EAE)



For additional information, please contact:

**Department of Health Systems Governance and Financing**

Health Systems & Innovation Cluster

World Health Organization

Email: [healthfinancing@who.int](mailto:healthfinancing@who.int)

Website: [http://www.who.int/health\\_financing](http://www.who.int/health_financing)