

# Narrative Summary on Public Expenditure for Health in Mali

This Narrative Summary on Public Expenditure for Health in Mali was written by Samia Laokri (Consultant, Health, Nutrition, and Population Global Practice), with support from Laurence Lannes (Senior Economist), Jewelwayne Cain (Consultant, HNP), and the Domestic Resource Mobilization Collaborative (DRM) collaborative facilitation team in the World Bank, comprising Aditi Nigam, Mahlet Gizaw, Lauren Oliveira Hashiguchi and Martin Mpungu Lutalo. The Narrative Summary was also reviewed by Marc-François Smitz (Economist) and Xun Yan (Country Economist, Mali).

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## ABSTRACT

The purpose of the narrative summaries is to demonstrate how policymakers can summarize and analyze their historical budgetary data for having a more informed within-country dialogue on issues related to domestic resource mobilization (DRM) for health. Authors explored Mali public finance statistics according to JLN DRM governance finance statistics analytic framework. The analyses offer a better understanding of where Mali is and where it has come from in terms of broader health financing trends. The results show how these trends have interacted with the overall macro-fiscal context in the country, and with anticipated impact of the COVID-19 pandemic on Mali public finance and health.

Mali is a low-income country in West Africa that is vulnerable to internal and external shocks such as socio-political instability, climate change, epidemics and related consequences on institutions, public governance and financing. The effect of public spending cuts, with a risk of decline in health spending, tangibly impact access to healthcare. Less than half of health spending is publicly sourced, equivalent to 4% of the GDP in 2020. Public spending on health rose to US\$16.2 per capita per year in 2020, up from US\$8.9 in 2000. On average, it changed by 3.7% annually over the past two decades (range from minus 10.4% to 27.9%). Budget prioritization of public spending on health corresponds to 7.6% (2020) of the general government spending, which suggests an absence of re-prioritization compared to the 2000 estimate (7.5%). Mali's demographic growth is part of the health financing equation to meet Mali's national policy goals<sup>1</sup>. A recent Health Financing System Assessment also presents in-depth analytics of Mali's health financing system, its opportunities and key challenges in terms of contextual factors influencing the health system sustainability, health outcomes, human resources, system infrastructure, health financing transition or fiscal space for health perspectives<sup>2</sup>.

## BACKGROUND

Mali is a vast Sahelian, landlocked and climate-affected country in the Sub-Saharan Africa (SSA) region, with high demographic growth (3.2% in 2021, WDI). Women in Mali have an average of 6.3 children, ranging from 4.6 to 7.5 according to household wealth (Mali 2018 Demographic and Health Survey, 2018). With an annual per capita income of about US \$873.8 in 2021 (WDI), Mali is among the 20 poorest countries in the world (Figure 1). Approximately 14.8% of the population lives on less than \$2.15 per day (2017 PPP, WDI). In 2020, about 15 million Malians (74.1% of the population) were unable to afford a healthy

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<sup>1</sup> Laokri S. et Lannes L. (2023) "Mali Health Financing System Assessment", The World Bank, Washington DC © 2023 The International Bank for Reconstruction and Development / The World Bank 1818 H Street, NW Washington, DC 20433.

<sup>2</sup> Laokri S. et Lannes L. (2023) "Mali Health Financing System Assessment", The World Bank, Washington DC © 2023 The International Bank for Reconstruction and Development / The World Bank 1818 H Street, NW Washington, DC 20433.

diet (\$3.1-per-person-per-day)<sup>3</sup>, which is key for the UN SDG2 “Zero Hunger”. A healthy diet is health-promoting and disease-preventing providing adequacy without excess, of nutrients and health-promoting substances from nutritious foods and avoiding the consumption of health-harming substances<sup>4</sup>. Up to 35.7% of Mali’s GDP (WDI) is based on rainfed agriculture and agropastoralism which makes its economy vulnerable to climate-related hazards and cropland<sup>1</sup>. Yet, Mali is the world’s fifteenth largest producer of gold (2022), contributing to 2% of global production<sup>5</sup>.

Mali has had successive political and military coups (2012, 2020, and 2021) and is among the fragile and conflict-affected states<sup>6</sup> Since 2012, insecurity has led to multiple population displacements (inside and outside the borders), public supply disruptions, and weaker governance<sup>7</sup>. Social tensions, armed conflicts, and violence strain an already fragile system and contribute to persisting political uncertainty in Mali. <sup>8</sup> The impact of the continued and increased fragility of Mali has led to spikes in security spending, crowding out spending on public services and investments. This ‘fragile’ context is detrimental to the health sector,

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<sup>3</sup> FAO, IFAD, UNICEF, WFP and WHO (2022). *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. <https://doi.org/10.4060/cc0639en>

<sup>4</sup> Neufeld, L. M., Hendriks, S., Hugas, M. and Scientific Group of the UN Food Systems Summit (2021), ‘Healthy diet: A definition for the United Nations Food Systems Summit 2021. A paper from the Scientific Group of the UN Food Systems Summit (March 2021) | Knowledge for policy’. <https://sc-fss2021.org/>. . <https://knowledge4policy.ec.europa.eu/publication/healthy-diet-definition-united-nations-food-systems-summit-2021-paper-scientific-group-en>

<sup>5</sup> GlobalData (2022), West Africa Gold Mining Market by Reserves and Production, Assets and Projects, Fiscal Regime including Taxes and Royalties, Key Players and Forecast, 2021-2026. Market Research Reports & Consulting. GlobalData UK Ltd., 36. <https://www.globaldata.com/store/report/west-africa-gold-mining-analysis/>

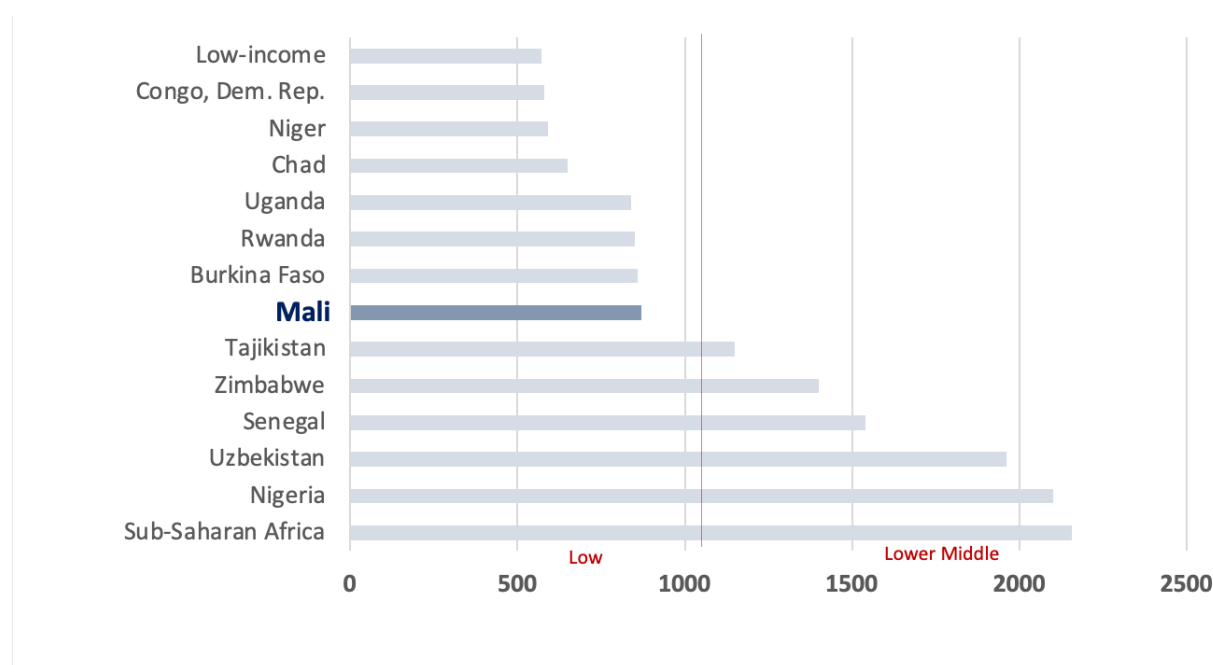
<sup>6</sup> <https://www.worldbank.org/en/topic/fragilityconflictviolence/brief/harmonized-list-of-fragile-situations>

<sup>7</sup> Laokri S. et Lannes L. (2023). *Mali Health Financing System Assessment*, The World Bank, Washington DC © 2023 The International Bank for Reconstruction and Development / The World Bank 1818 H Street, NW Washington, DC 20433.

<sup>8</sup> Laokri S. et Lannes L. (2023). *Mali Health Financing System Assessment*, The World Bank, Washington DC © 2023 The International Bank for Reconstruction and Development / The World Bank 1818 H Street, NW Washington, DC 20433.

exacerbating the risk related to the growing sector needs in terms of availability of existing services, additional needs related to population growth, quality of care and scope of services<sup>9</sup>.

Figure 1. Per capita income (US\$), Mali and comparator countries, 2021



Source: Estimates are from the World Development Indicators (WDI), 2022

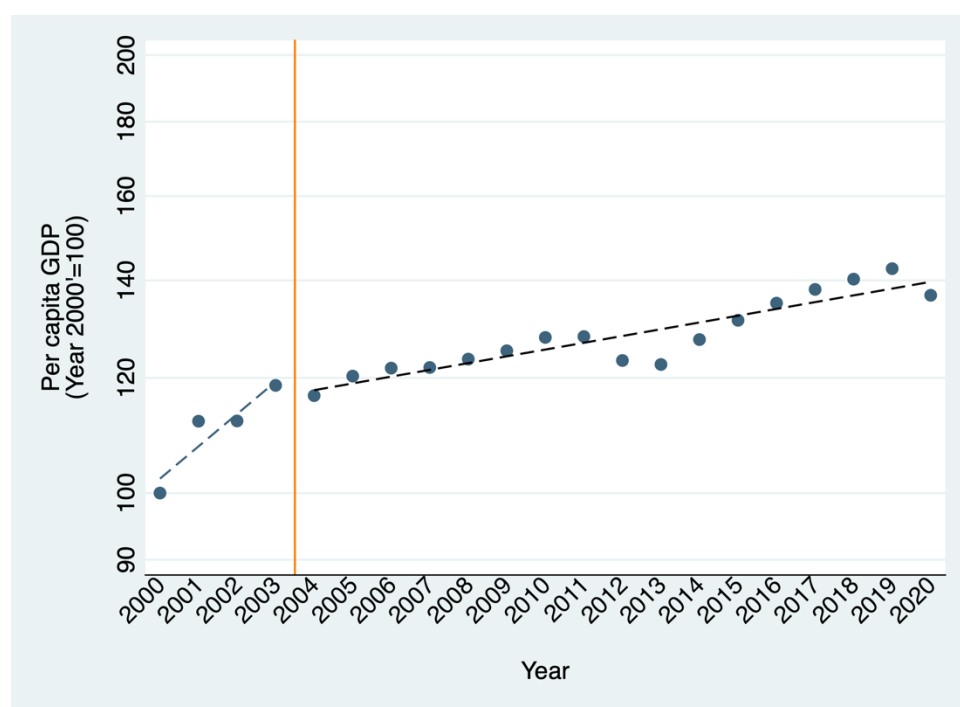
Annual economic growth rates averaged 1.4% in per capita terms over 2000-2020 in Mali, decelerating to 0.9% over 2004-2020 compared to 3.8% over 2000-2003 (Figure 2). The 'Pritchett Landscape'<sup>10</sup> of Mali's per capita growth trajectory can be categorized as a 'plateau' with growth rates exceeding 3% per year before but falling to 0.9% on average after a statistically determined break in trend in 2003 (refer to glossary for details on estimation methods). In cumulative constant per capita terms, the size of Mali's economy augmented by 36.8% over two decades (over the period 2000-2020).

<sup>9</sup> Laokri S. et Lannes L. (2023) 'Mali Health Financing System Assessment', The World Bank, Washington DC © 2023 The International Bank for Reconstruction and Development / The World Bank 1818 H Street, NW Washington, DC 20433.

<sup>10</sup> Pritchett, L. (2000), 'Understanding Patterns of Economic Growth: Searching for Hills among Plateaus, Mountains, and Plains', The World Bank Economic Review. Oxford University Press, 14(2): 221-250.

The 2012-2014 incline indicates two years of recession, followed by the incline in 2020, which are below the Pritchett's trend. If 2012 is used as an alternative but arbitrary break point, it would indicate that the per capita annual growth decelerated to 0.8% over 2012-2020 compared to 1.0% over 2004-2012. In 2020, GDP growth was declining in Mali, with minus 1.2% (WDI). Over the past decade (2009-2021), Mali's annual growth was higher than the average for the income group (0.53%) and SSA region (0.33%). Mali's economy rebounded in 2021 from recovery efforts in the agriculture and services sector, with GDP growth estimated at 3.1% (WDI). Despite the multiple shocks since 2020, Mali's economy has proven relatively resilient and the annual growth remains above 3% in 2022 (IMF).

Figure 2. Per capita GDP, Mali from 2000 - 2020



Source: Estimates are from the World Development Indicators (WDI)

At 26%, the total government expenditure as a share of Gross Domestic Product (GDP) was similar to average government expenditure for income (21%) and SSA (25%) groups in 2020 (Table 1). The total government revenue as a share of GDP is the primary driver for the higher contribution of the total government spending to GDP. Government expenditures are also linked with a relatively large deficit (5% of GDP). Mali's total government expenditure has remained in the 15-to-26% of GDP range over 2000-2020 (Figure 3). Since 2015 but

excepting in 2018, Mali's tax revenues of at least 14% of GDP almost meet the 15% benchmark that was recently highlighted in a study by the International Monetary Fund (IMF)<sup>11</sup> as being necessary for sustaining economic growth. Between 2000 and 2020, tax revenues averaged 12.8% of GDP (Min-Max range: 10.7% - 15.2%).

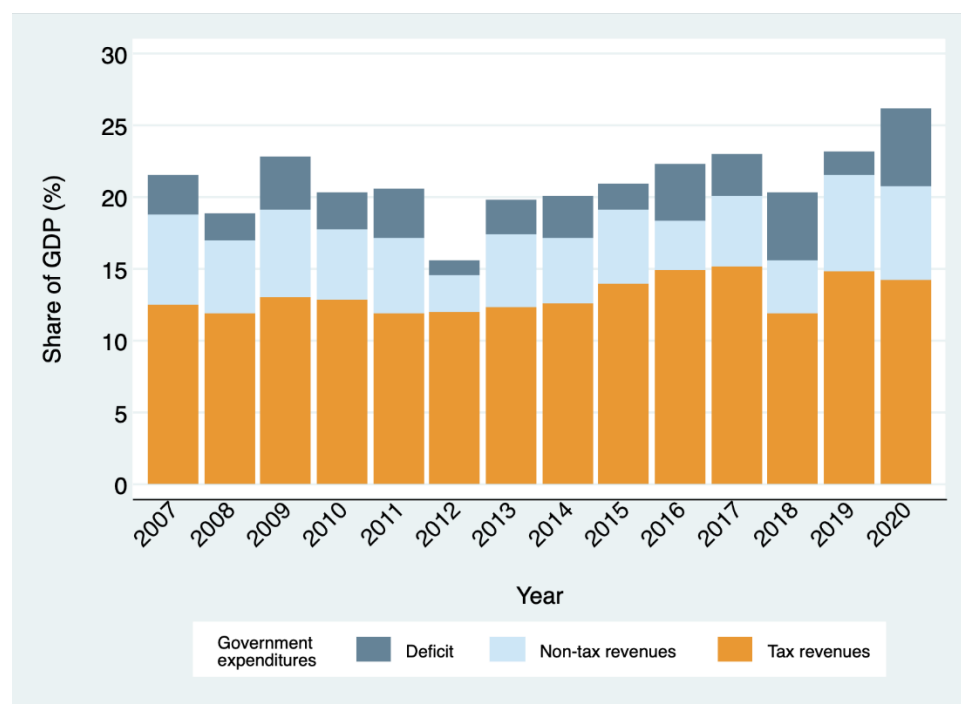
*Table 1. Comparison of government expenditures, revenues, deficit, and surplus (as share of GDP), 2020*

Country	Government expenditures	Government revenues		Government deficit/ surplus
		Total	Taxes	
Afghanistan	28	26	8	-2
Burkina Faso	25	20	14	-6
Congo, Dem. Rep.	10	9	6	-1
<b>Mali</b>	<b>26</b>	<b>21</b>	<b>14</b>	<b>-5</b>
Niger	23	18	10	-5
Nigeria	12	7	4	-6
Rwanda	33	24	15	-10
Senegal	27	20	17	-6
Chad	19	21	13	2
Tajikistan	29	25	18	-4
Uganda	21	14	11	-7
Uzbekistan	29	26	19	-3
Zimbabwe	15	15	14	1
<b>SSA average</b>	<b>25</b>	<b>20</b>	<b>14</b>	<b>-5</b>
<b>LIC average</b>	<b>21</b>	<b>17</b>	<b>10</b>	<b>-4</b>

Source: Estimates are from the IMF WEO and the IMF World Revenue Longitudinal database, and are from the latest available year (2020).

*Figure 3. Government Revenues and Expenditure in Mali, 2007-2020*

<sup>11</sup> Gaspar V., Jaramillo L., and Wingender P. (2016) "Tax Capacity and Growth: Is there a Tipping Point?" IMF Working Paper WP/16/234, Washington, DC: International Monetary Fund



Source: Estimates are from the IMF WEO and IMF World Revenue Longitudinal Data.

## HEALTH SYSTEM

Despite government efforts, most population health outcomes are lower in Mali than the average among benchmarked group of countries (Table 2). Life expectancy at 60 years old and adult survival at 59 years are below regional and income group averages by 2 to 3 years. Mali's under-five mortality rate of 91 per 1,000 live births is also 50% higher than the averages in the SSA region and LIC countries, which are respectively 63 and 68 per 1,000 live births. Mali's rate is also higher to the average observed among comparators (78 per 1,000 live births). Quality of care remains a challenge, as does coverage for non-communicable diseases (NCDs). An estimated 19,000 deaths occur annually due to poor-quality care<sup>12</sup>, while another 19,000 deaths are attributed to lack of access to needed care, including for

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<sup>12</sup> Poor quality of care amongst those who accessed care is a main factor in global mortality that spanned many conditions including cardiovascular disease, vaccine preventable diseases, neonatal conditions, road injuries, maternal mortality, TB, HIV, and other infectious diseases.

NCDs<sup>13</sup>. Mali scored 0.32 on the World Bank’s human capital index (HCI, scale 0 – 1), indicating that a child born there today would be expected to be only a third as productive as they could be, and GDP per worker could be almost three times what it is, with complete education and full health<sup>14</sup>. Mali’s HCI also scored lower than low-income (0.37) and SSA regional (0.40) averages.

*Table 2. Comparison of Health Outcomes, 2020 year or latest available, where 2020 is the most recent year of data available*

Country	Population (million)	Life expectancy	Fertility	Under-five mortality	Adult survival	Maternal mortality	Childhood stunting
Afghanistan	39.0	65	4	58	66	638	35
Burkina Faso	21.5	62	5	85	62	320	26
Chad	16.7	55	6	110	49	1140	35
Congo, Dem. Rep.	92.9	61	6	81	60	473	41
<b>Mali</b>	<b>21.2</b>	<b>60</b>	<b>6</b>	<b>91</b>	<b>59</b>	<b>562</b>	<b>26</b>
Niger	24.3	63	7	78	63	509	47
Nigeria	208.3	55	5	114	50	917	35
Rwanda	13.2	69	4	41	72	248	33
Senegal	16.4	68	4	38	72	315	17
Tajikistan	9.5	71	4	32	77	17	15
Uganda	44.4	64	5	43	62	375	28
Uzbekistan	33.5	72	3	14	77	29	10
Zimbabwe	15.7	62	3	54	54	458	23
<b>SSA average</b>	<b>23.6</b>	<b>63</b>	<b>4</b>	<b>62</b>	<b>61</b>	<b>453</b>	<b>27</b>
<b>LIC average</b>	<b>23.6</b>	<b>63</b>	<b>4</b>	<b>68</b>	<b>62</b>	<b>521</b>	<b>33</b>

Source: All data are from the World Development Indicators and from the latest year of availability, with the exception of population (millions) which is from the WHO Global

<sup>13</sup> Kruk, M. E., Gage, A. D., Joseph, N. T., Danaei, G., García-Saisó, S. and Salomon, J. A. (2018), ‘Mortality due to low-quality health systems in the universal health coverage era: a systematic analysis of amenable deaths in 137 countries’, *Lancet* (London, England), 392(10160): 2203–2212.

<sup>14</sup> World Bank. 2020. *Survive, Learn, Thrive: Strategic Human Capital Investments Toward a More Prosperous and Inclusive Armenia*. World Bank, Washington, DC.



## Pre-print version

Health Expenditure Database (GHED), of which the latest available year for all countries is 2020.

From 2010-2019, Mali has made progress in improving its UHC service coverage index to 41.5, which is more than half of the 2030 SDG Goal 3 Target 3.8 of 80; however, the service coverage index for Mali remains below the average for both LIC countries and SSA countries<sup>15</sup> (Figure 4). Since its score is below 20 for service capacity and access, Mali lags behind LIC and SSA averages<sup>16</sup>. Primary care remains insufficiently covered, and outpatient drugs, inpatient care, and other forms of specialized services are only covered for vulnerable groups and civil servants. About half (49.4%) of the TB-affected households experience costs higher than 20% of their annual household income<sup>17</sup>, as per WHO global monitoring indicator<sup>18</sup>, pushing at least a quarter (26%) of these households below the international poverty line<sup>19</sup>. Despite the free-of-charge TB policy in Mali, a large proportion (60%) of the TB-affected households either borrow funds or sell assets to alleviate the economic burden

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<sup>15</sup> Global Burden of Disease Collaborative Network. 2020. Global Burden of Disease Study 2019: UHC Effective Coverage Index 1990- 2019. Seattle, USA: Institute for Health Metrics and Evaluation.

<sup>16</sup> Laokri S. et Lannes L. (2023) 'Mali Health Financing System Assessment', The World Bank, Washington DC © 2023 The International Bank for Reconstruction and Development / The World Bank 1818 H Street, NW Washington, DC 20433.

<sup>17</sup> Traore M, Nguhiu P, Telly N, Traore S, Toloba Y, Camara F, Keita M, Konaté B, Diallo Y, Diallo Z, Bah N, Dieffaga M, Laokri S, Garcia Baena I. 2022. The high costs facing TB-affected households in Mali. *The International Journal of Tuberculosis and Lung Disease: The Official Journal of the International Union Against Tuberculosis and Lung Disease* 26(11): 1071–1073.

<sup>18</sup> World Health Organization Geneva, Switzerland: WHO; 2015. The end TB strategy. [[Google Scholar](#)]

<sup>19</sup> Traore M, Nguhiu P, Telly N, Traore S, Toloba Y, Camara F, Keita M, Konaté B, Diallo Y, Diallo Z, Bah N, Dieffaga M, Laokri S, Garcia Baena I. 2022. The high costs facing TB-affected households in Mali. *The International Journal of Tuberculosis and Lung Disease: The Official Journal of the International Union Against Tuberculosis and Lung Disease* 26(11): 1071–1073.

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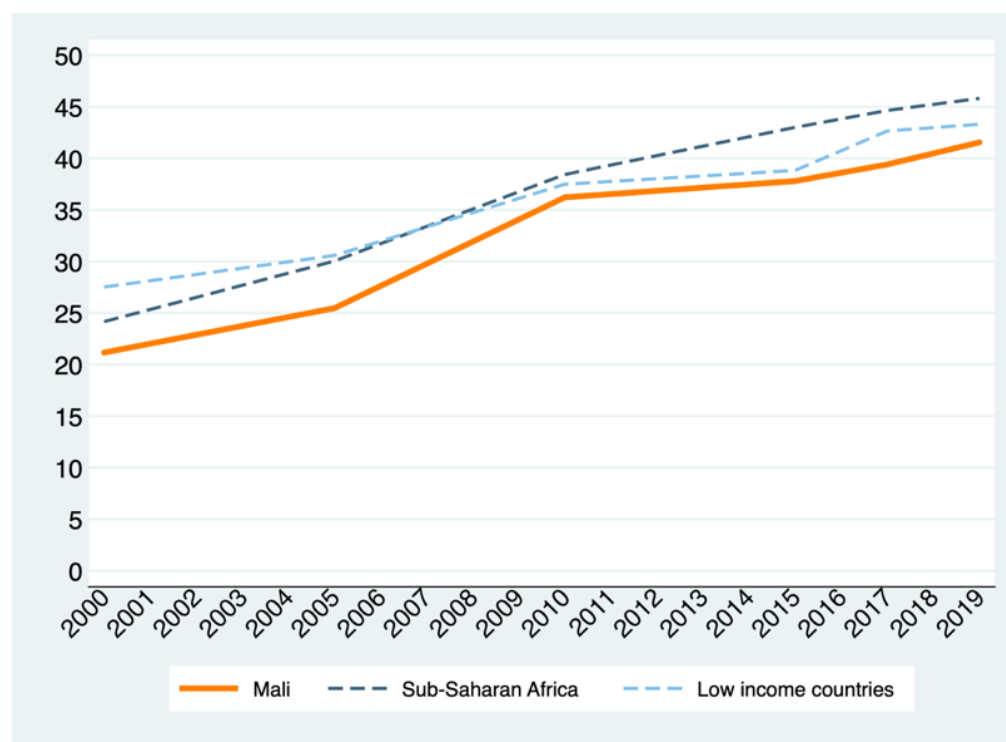
imposed by illness<sup>20</sup>. This calls for the creation of a policy window to accelerate progress towards affordable care for all<sup>21</sup>. Coverage rates for essential maternal and child health care were low prior to the COVID-19 pandemic. About 75% of children received their third diphtheria-pertussis-tetanus vaccine in the first year and 70% received the three-dose regimen (UNICEF, 2020 as revised 2021). As a result of the pandemic, service use has been disrupted, with childhood vaccination rates respectively falling from 82% to 77% between 2017 and 2019.

*Figure 4. UHC Index, 2000 - 2019*

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<sup>20</sup> Traore M, Nguhiu P, Telly N, Traore S, Toloba Y, Camara F, Keita M, Konaté B, Diallo Y, Diallo Z, Bah N, Dieffaga M, Laokri S, Garcia Baena I. 2022. The high costs facing TB-affected households in Mali. *The International Journal of Tuberculosis and Lung Disease: The Official Journal of the International Union Against Tuberculosis and Lung Disease* 26(11): 1071–1073.

<sup>21</sup> Laokri S. 2017. Collaborative Approaches and Policy Opportunities for Accelerated Progress toward Effective Disease Prevention, Care, and Control: Using the Case of Poverty Diseases to Explore Universal Access to Affordable Health. *Frontiers in Medicine* 4. Available from: [http://journal.frontiersin.org/article/10.3389/fmed.2017.00130/full?utm\\_source=Email\\_to\\_authors\\_&utm\\_medium=Email&utm\\_content=T1\\_11.5e1\\_author&utm\\_campaign=Email\\_publication&field=&journalName=Frontiers\\_in\\_Medicine&id=287169](http://journal.frontiersin.org/article/10.3389/fmed.2017.00130/full?utm_source=Email_to_authors_&utm_medium=Email&utm_content=T1_11.5e1_author&utm_campaign=Email_publication&field=&journalName=Frontiers_in_Medicine&id=287169) [Accessed 25 August 2017].



Source: WHO-GHO<sup>22</sup>, 2019

The Mali Action Plan (MAP) 2020-2030<sup>23</sup> outlines ambitious commitments towards the SDG Goal 3 on Health aiming at building health system resilience and purchasing a basic package of services from public and private providers. During a High-Level workshop held in February 2019<sup>24</sup>, the Minister of Health under the leadership of the Head of State announced a sound health financing reform, promoting policy recommendations to the Government of Mali in relation to the supply of quality health care and services, access to more affordable

<sup>22</sup> World Health Organization, Global Health Observatory Database.

<sup>23</sup> Mali Ministry of Health and Social Development (March 2020), *Mali Action Plan (MAP) 2020-2030 "Plan d'action pour le Mali: La voie à suivre pour une meilleure santé"*. <http://www.sante.gov.ml/index.php/actualites/item/6125-plan-d-action-pour-le-mali-map-2020-2030>

<sup>24</sup> Mali Ministry of Health and Social Development (2019). High Level Workshop on the Reform of the Mali Health System, held at the International Conference Center of Bamako, from February 25 to 28, 2019: Press release from the Minister of Health and Public Hygiene (in French). Available from: <http://www.sante.gov.ml/index.php/actualites/communiqués/item/3287-atelier-sur-la-reforme-du-systeme-de-sante-au-mali> [Accessed 22 March 2023].

medicines, expansion of the free primary and curative health care package. Full implementation of its far-reaching health reform, Mali health policymaking would be exemplar in the sub-region<sup>25</sup>. In January 2022, Mali passed a decree to establish a universal health insurance scheme<sup>26</sup>, which was enacted in 2018, for implementation in 2023.

## HEALTH FINANCING AND DOMESTIC RESOURCE MOBILIZATION

Mali's per capita spending on health is approximately US\$35, and about 4% of GDP; however, less than half of health spending is publicly sourced, equivalent to US\$16 per capita (Table 3). Central government raised financial resources from social health insurance and foreign revenues represent 20% and 25% of the public spending on health, respectively, with the remaining being sourced from domestic government revenues. Per capita public spending on health increased by 3.8% in 2020 compared to 2000 in real terms, while over the same period per capita public spending on health in nominal terms increased by 8.3%, which means that less than half of the growth in current prices has been observed as a result of real spending growth. This annual spending growth fluctuated from minus 10.4% (in 2018) to 27.9% (in 2003), showing the variation range observed between 2000 and 2020.

Since 2014, per capita public spending on health was greater, on average, than OOP spending by US\$3.8 in contrast to the period 2000 to 2013 during which OOP was greater than public spending, on average, by US\$9.7. Mali's OOP spending is 29% of total health spending and is below the average OOP spending for low-income and SSA countries. Regarding financial protection, preliminary indications are that the proportion of households for whom OOP spending was 10% or higher of household income (or consumption) has increased from 3.4% to 6.5% of the population in recent years<sup>27</sup>. Mali's latest estimate is in line with the

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<sup>25</sup> Adepoju, P. (2019), 'Mali announces far-reaching health reform', *The Lancet*. Elsevier, **393**(10177): 1192. ; Laokri S. et Lannes L. (2023) '*Mali Health Financing System Assessment*', The World Bank, Washington DC © 2023 The International Bank for Reconstruction and Development / The World Bank 1818 H Street, NW Washington, DC 20433.

<sup>26</sup> 2022 Decree establishing the Universal Health Insurance scheme - "Décret n° 2022-0018/PT-RM du 28 janvier 2022 fixant les modalités d'application de certaines dispositions de la loi n° 2018-074 du 31 décembre 2018 portant institution du régime d'Assurance maladie universelle."

<sup>27</sup> Health Equity and Financial Protection Indicators (HEFPI) estimates (2016).

average, 6.8%, for the region or income group. Whereas the majority of the population facing financial risk associated with OOP spending on health, largely on drugs, are the poor pushed further below the poverty line because of OOPs, they also contribute to adding 2.4% of the population below the poverty line, according to country equity diagnostic for Mali.

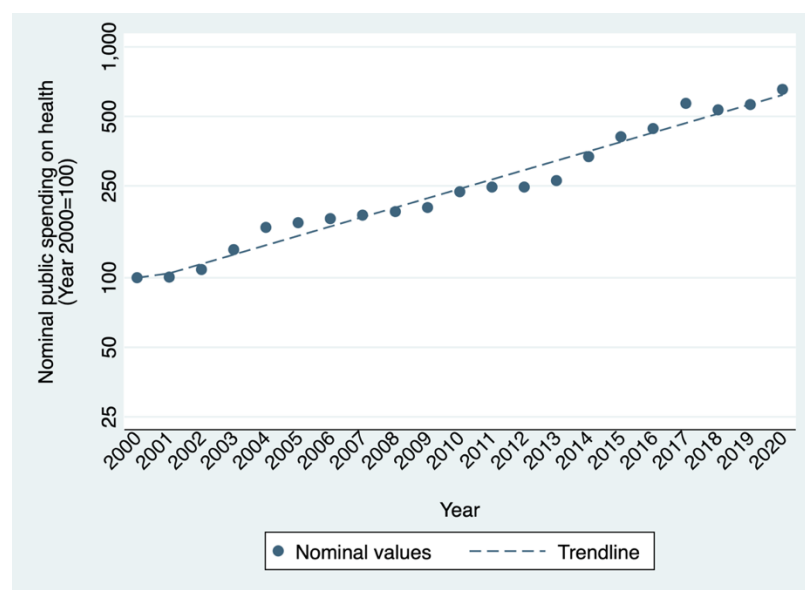
*Table 3. Comparison of Health Spending Disaggregation Across Countries, 2020 year or latest available, where 2020 is the most recent year of data available*

Country	Health spending		Public spending on health				OOP health spending	
	Per capita (US\$)	Share of GDP	Per capita (US\$)	Share domestic government	Share SHI	Share external	Per capita (US\$)	Share of CHE
Afghanistan	80	16	10	60	0	40	60	75
Burkina Faso	54	7	31	76	0	24	19	35
Chad	35	5	9	67	0	33	21	59
Congo, Dem. Rep.	21	4	8	43	1	56	8	40
<b>Mali</b>	<b>35</b>	<b>4</b>	<b>16</b>	<b>55</b>	<b>20</b>	<b>25</b>	<b>10</b>	<b>29</b>
Niger	35	6	18	71	2	27	15	43
Nigeria	70	3	12	81	8	11	52	75
Rwanda	57	7	33	49	21	30	6	10
Senegal	77	5	38	58	8	33	32	42
Tajikistan	70	8	20	90	0	10	45	65
Uganda	34	4	11	54	0	46	13	37
Uzbekistan	121	7	56	100	0	0	64	53
Zimbabwe	51	3	13	85	0	15	5	10
<b>SSA average</b>	<b>110</b>	<b>5</b>	<b>62</b>	<b>73</b>	<b>4</b>	<b>21</b>	<b>29</b>	<b>34</b>
<b>LIC average</b>	<b>33</b>	<b>5</b>	<b>11</b>	<b>56</b>	<b>3</b>	<b>26</b>	<b>14</b>	<b>34</b>

Source: All estimates are from the WHO GHED

Domestic Resource Mobilization (DRM) reform efforts in recent years have focused on increasing health's share of total public expenditure. Public spending on health amounted to XOF 198,371.8 million (~US\$344.6) in nominal terms in 2020, up from XOF 30,450 million (~US\$42.9) in 2000—representing more than a six-fold nominal increase over the entire period (Figure 5).

*Figure 5. Nominal Public Spending on Health, Mali 2000 - 2020*



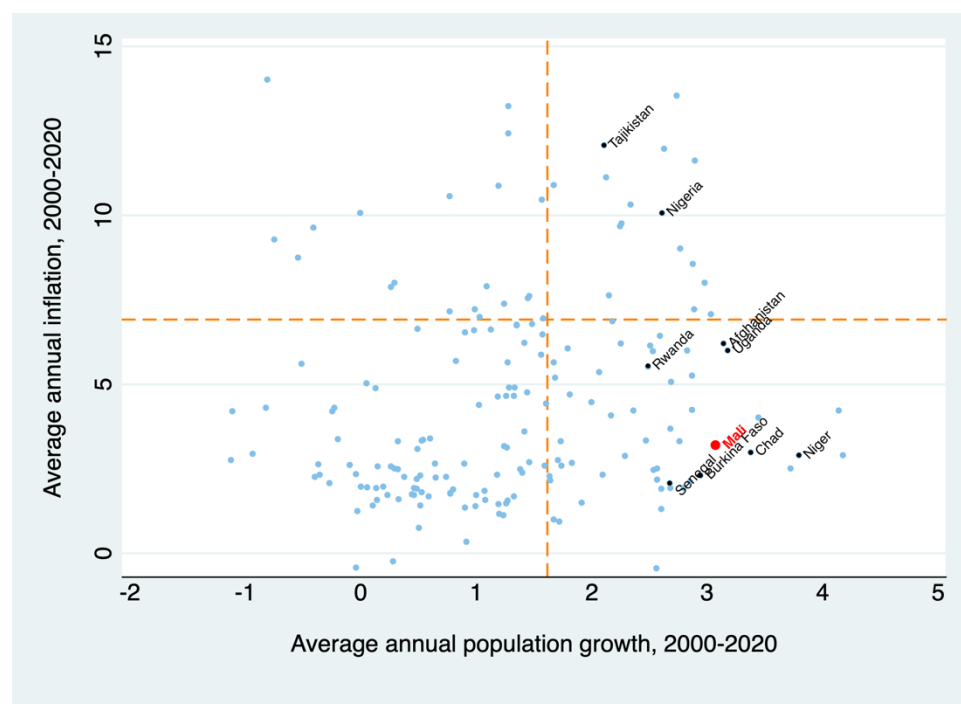
Source: Author’s estimates using data from the WHO GHED

## TRENDS IN GOVERNMENT BUDGETARY SPENDING ON HEALTH

Mali has faced relatively low levels of inflation in recent decades (Figure 6). Over 2000-2020, the inflation rate was 3.2%, which was comparatively less than the average across all LIC countries (6.2%) over the same period, and across all SSA countries (5.5%). Since 2021, inflation has drastically increased between 2021 and 2022. Mali experienced positive average annual population growth (3.1%), which was higher than low-income countries (2.7%) and countries in the sub-Saharan African region (2.5%)<sup>28</sup>. Mali’s population has doubled between 2000 and 2020, which further accentuates the importance of considering changing demographics and their relationship for population health financing. Nominal budgetary increases would need to exceed at least 0.1% per year to keep levels the same in per capita constant terms.

*Figure 6. Average annual inflation against average annual population growth in Mali and select countries, 2000 - 2020*

<sup>28</sup> Data from the IMF World Economic Outlook Database

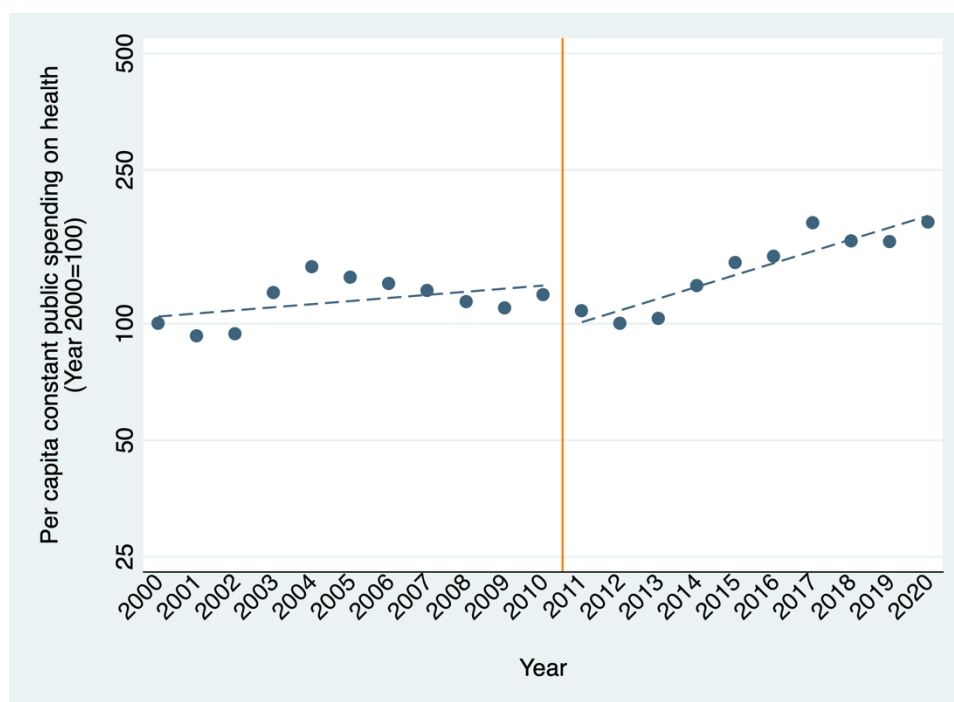


Source: Inflation and population data are from IMF World Economic Outlook.

Trends in nominal values are adjusted for inflation and population growth to determine how much general government spending on health increased in constant per capita terms. Adjusting for inflation and population growth shows that in per capita constant terms, the public spending on health in Mali has grown by a ratio of 1.8 since 2000, averaging an annual growth rate of 3.0% per year over the past two decades (Figure 7). In 2000, public spending on health amounted to XOF 9,346.6 (~US\$16.2) per inhabitant, up from XOF 5,118.7 (~US\$8.9) per inhabitant<sup>29</sup>. Mali is categorized as an ‘accelerator’ country for per capita public spending on health as growth increased by 1.7% per year before its statistically determined breakpoint in 2011 and has since increased by 4.3% per year (Figure 7).

*Figure 7. Per capita constant public spending on health, Mali 2000 - 2020*

<sup>29</sup> Data from the World Health Organization’s Global Health Expenditure Database



Source: Authors' estimates using data from WHO GHED

## BROADER TRENDS IN HEALTH FINANCING AND UHC

Per capita government spending on health can be seen as the product of three variables<sup>30</sup>:

- i. Health's share of total government spending (prioritization)
- ii. Total government spending share of GDP
- iii. Per capita GDP.

Per capita public expenditure on health increased by 82.6% over the last 20 years in Mali (Figure 8). This result appears slightly lower than the average for SSA (89%). The decomposition suggests that the predominant sources for the increase in government health expenditure is due to government capacity for mobilizing a greater share of the GDP toward the health budget and economic growth, which respectively increased by 34.7% and 34.0% over twenty years. Mali's total government spending share of GDP of 26.1% in 2020 is higher than the SSA and LIC averages, respectively of 25.5% and 20.8%. The third driver of increased per capita government spending on health has played a negligible role. Hence, the

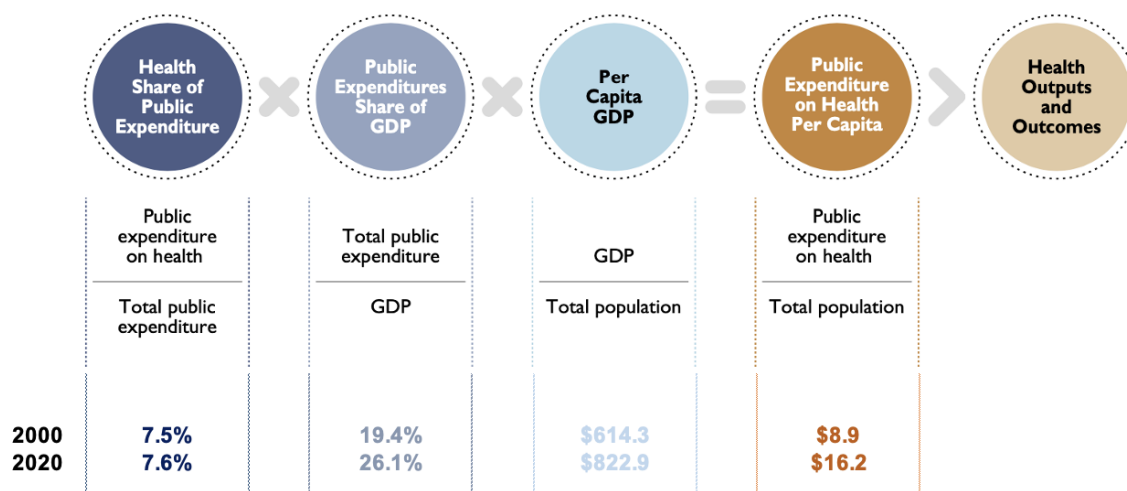
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<sup>30</sup> Kutzin J. et al. (WHO) Health financing decomposition



health share of public expenditures is 1.2% in Mali against 8.0% for the SSA region, and 2.3% for LIC.

Figure 8: Decomposition of per capita health expenditure 2000-2020 in Mali



Source: Author's estimates using data from the WHO GHED.

Note: Product may differ due to rounding.

In 2020, Mali's per capita GDP (constant, 2020) amounted to XOF 473,650.7 (~US\$822.9). Of this, 26.1% was general government spending (representing spending across all sectors, including for health) and 7.6% of general government spending represented health's share – amounting to XOF 9,346.6 (~US\$16.2) per capita. In 2000, Mali's per capita GDP was XOF 353,561.8 (~US\$614.3) with 19.4% representing general government spending, of which 7.5% was health's share – amounting to XOF 5,118.7 (~US\$8.9) per capita.

Since 2000, the growth of the government spending on health (in per capita constant terms) was due to economic growth (4.6 % per year, and 1.4% per capita per year), with a sizeable contribution coming from the total government expenditures as share of GDP (20.9%) and a smaller health's share of the total government spending (7.1%). Over 2000-2020, the total government expenditure as share of GDP annually increased by 2.2%, on average, whereas the health's share of the total government spending annually increased, on average by 0.9% (Figure 9). From 2018-2020, the percentage change averaged 5.1% of GDP and minus 3.4% of GDP per year respectively. This confirms that increases in economic growth are the main

driver of health expenditure growth with reprioritization as a secondary driver.<sup>31</sup> Budget reprioritization for health is challenging for health ministries in many countries. Yet, the global average share of health in public expenditures stands at about 11.2%<sup>32</sup>, which can be a desirable target for the Malian ministry of health. Between 2000 and 2019, economic growth has been the main driver for several peer countries including Uganda, Burkina Faso, Ethiopia, and Rwanda whereas the primary driver in Mali's neighboring country of Niger was<sup>33</sup> public spending on health. Recent analyses at the regional level for sub-Saharan Africa and among low-income countries show that the most conducive strategies to increase health spending is primarily from economic growth, followed by changes in public expenditure, and then budget reprioritization on health.<sup>34</sup> However, this general trend contrasts with stimulating results that have shown reprioritization as a very successful primary strategy, which is the case in Myanmar being in the top growth quintile albeit its reprioritization on health came from a relatively low base (far below 5%)<sup>35</sup>.

*Figure 9. Total government expenditure as a share of GDP compared to health share of total government expenditures, Mali 2000 - 2020*

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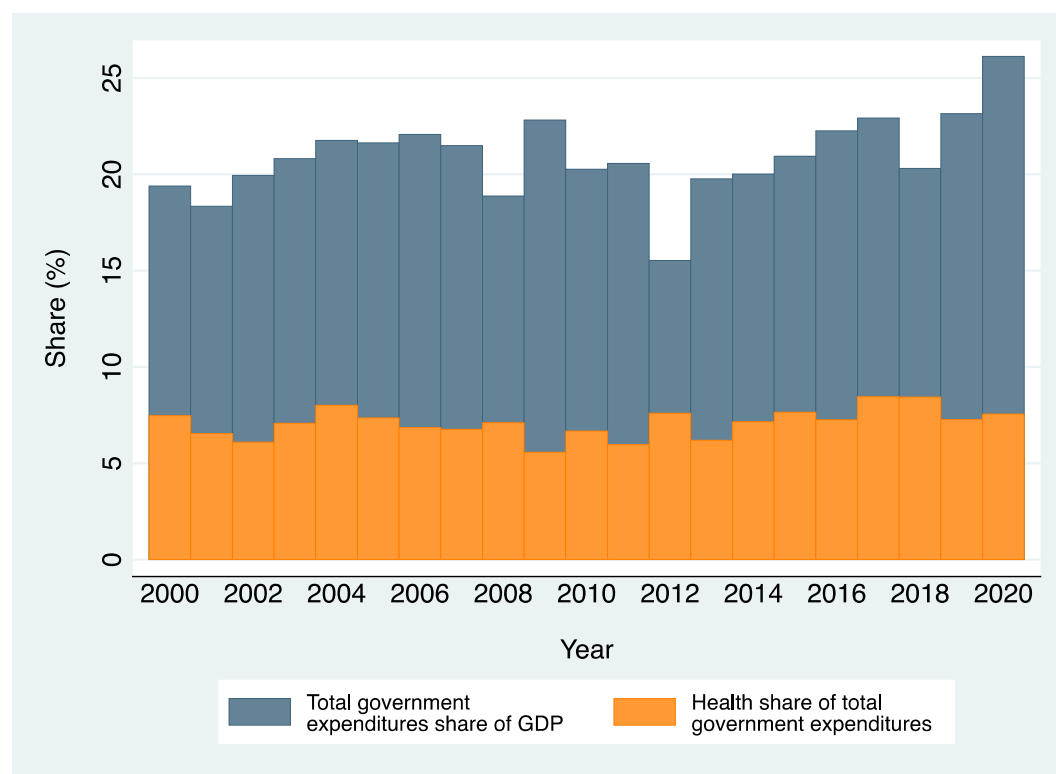
<sup>31</sup> JLN fiscal narrative series, <https://www.jointlearningnetwork.org/resources/drm-narrative-summaries/>

<sup>32</sup> Tandon, A. and JLN Domestic Resource Mobilization Collaborative (2020), *On Prioritizing Health: A Background Analysis*. JLN Network. <https://www.jointlearningnetwork.org/resources/on-prioritizing-health-a-background-analysis/> [12 May 2023].

<sup>33</sup> World Bank (2023), *Niger Economic update 2023 - Note sur la Situation Économique du Niger 2023 - Chapitre spécial: Renforcer la résilience financière des éleveurs face à la sécheresse*. Text/HTML. World Bank Group. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099061623153039141/P17929901138c00490810c013ab32f012d7> [19 June 2023].

<sup>34</sup> World Bank (2023), *Niger Economic update 2023 - Note sur la Situation Économique du Niger 2023 - Chapitre spécial: Renforcer la résilience financière des éleveurs face à la sécheresse*. Text/HTML. World Bank Group. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099061623153039141/P17929901138c00490810c013ab32f012d7> [19 June 2023].

<sup>35</sup> Tandon, A. and JLN Domestic Resource Mobilization Collaborative (2020), *On Prioritizing Health: A Background Analysis*. JLN Network. <https://www.jointlearningnetwork.org/resources/on-prioritizing-health-a-background-analysis/> [12 May 2023].



Source: Estimates are from the IMF WEO and the WHO GHED

Mali’s spending on health as a share of government expenditure (8%) is identical to the average for LIC countries (8%) and very similar to the average for SSA countries (9%) (Table 4). However, the spending on education as a share of general government expenditures in Mali (16%) is twice the share of health’s. This is slightly higher than the regional (15%) or income group (14%) averages taken as benchmarks. In 2020, Mali’s health spending as a share of government expenditure was greater by 3% than the share of debt service payments (5%). Proportionally to Mali’s government expenditure, health spending was much lower than military’ spending (13%). This was more than twice as high as the average for fragile and conflict-affected countries (6%) and higher than the benchmarked averages for SSA and LIC countries.

Table 4. Comparison by country of share of total government expenditure, 2020 year or latest available, where 2020 is the most recent year of data available

Country	Health	Education	Military	Debt service
Share of Government Expenditure				
Afghanistan	7	11	4	0

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Burkina Faso	15	23	8	6
Chad	7	15	16	5
Congo, Dem. Rep.	14	14	6	2
<b>Mali</b>	<b>8</b>	<b>16</b>	<b>13</b>	<b>5</b>
Niger	14	12	7	5
Nigeria	5	5	5	18
Rwanda	13	11	5	5
Senegal	10	21	6	8
Tajikistan	8	20	3	3
Uganda	6	11	13	10
Uzbekistan	11	21	1	0
Zimbabwe	6	19	2	2
<b>SSA average</b>	<b>9</b>	<b>15</b>	<b>6</b>	<b>8</b>
<b>LIC average</b>	<b>8</b>	<b>14</b>	<b>8</b>	<b>6</b>

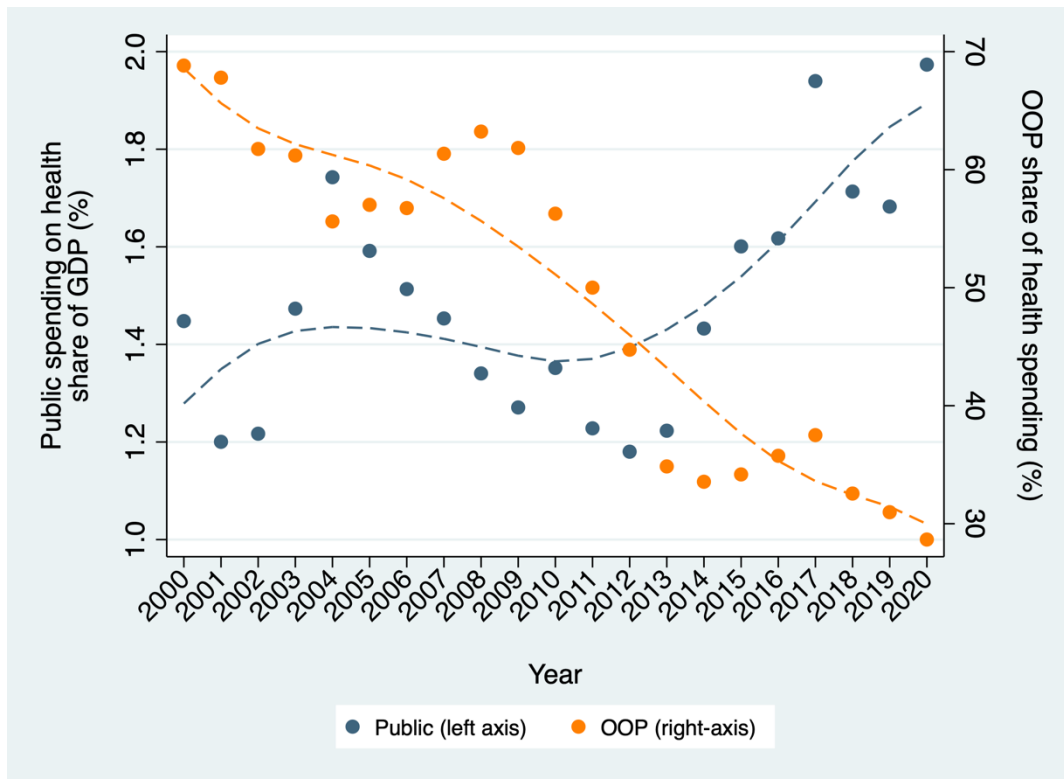
Source: Source: Estimates are from the WHO GHED (Latest year), the WDI (Latest year), and the IMF WEO (Latest year)

Public spending cuts and the risk of decline in health spending tangibly impact the conditions of access to care for the beneficiaries (e.g., reductions in entitlements, reduced funding for primary healthcare, increased direct payments for health). Planning and policy foresight is helpful for preventing political backsliding on commitments and can help sustain gains in equity improvements while also reducing the financial burden on households from OOP payments for health. The pace of decline in the financial burden borne by households through OOP payments has been progressive and inversely related to the pace of increase in public financing for health (Figure 10). Mali's OOP share of health spending was 28.7% of the current health expenditure in 2020, down from 68.8% in 2000 and less than 50% for the first time in 2012. Most of the transition was observed after the introduction of financial protection mechanisms for health in 2009, with a peak decline of 52.7% in three years (2010 - 2013) that can be attributed to the contribution of compulsory health insurance (essential for civil servants) and non-contributory schemes for vulnerable populations. It further improved with health reforms in 2016 and 2018, notably due to extended coverage for injuries induced by armed conflicts and disasters. Reduced health financing fragmentation

is expected with the adoption of the Universal Health Insurance Plan in Mali<sup>36</sup>, which aims to consolidate existing schemes under one publicly provided scheme.

Mali is within a health financing transition phase, with an average annual decrease (of 4.8%) in per capita OOP spending on health. The country has progressed in its health financing transition, witnessing an accelerated pace of decrease in the financial burden induced by OOP spending on health. Yet, per capita OOP spending on health represents up to 28.7% of health spending in 2020. To make progress towards affordable healthcare for all in Mali by 2030, efforts must be maintained and reinforced to drop below the 20% health spending benchmark and maintain this position.

Figure 10. Public spending on health as a share of GDP versus OOP share of health spending, Mali, 2000 - 2020



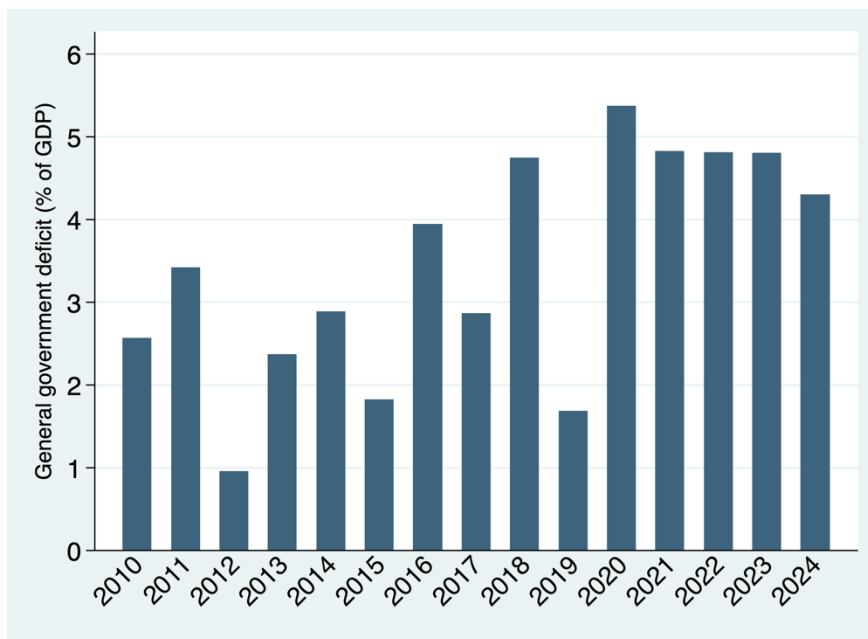
<sup>36</sup> Law n° 2021-038 of 8 July 2021 on the National Health Insurance fund.

Source: Author's estimates using data from the WDI, the WHO GHED, and the IMF WEO.

## ANTICIPATED IMPACT OF THE COVID-19 PANDEMIC ON GOVERNMENT HEALTH SPENDING

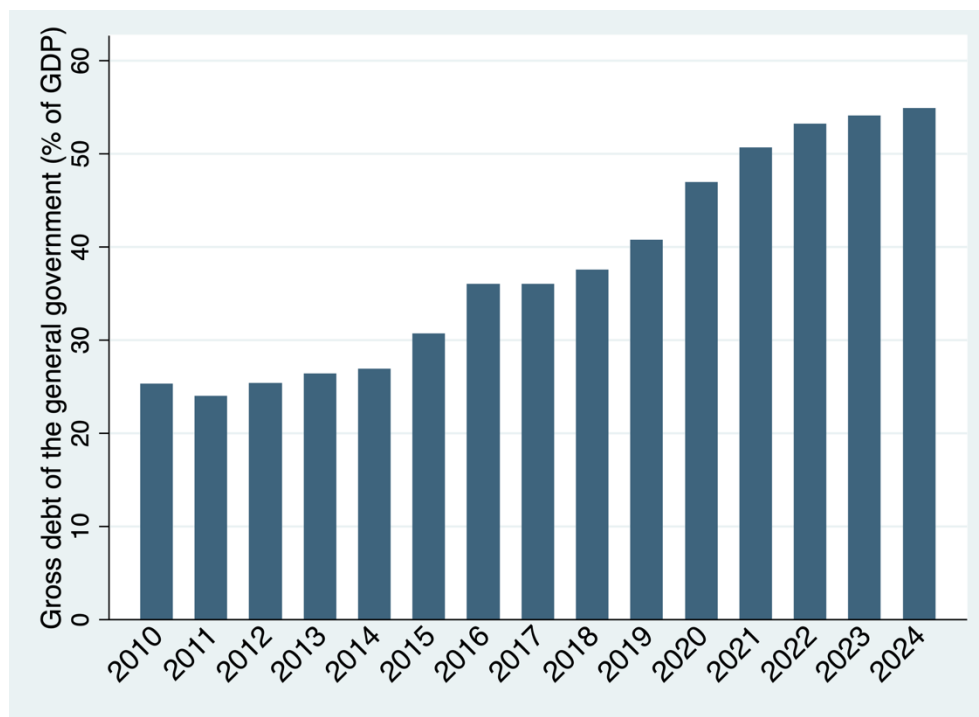
Analysis of Mali's macro-fiscal position shows that prior to the COVID-19 pandemic, Mali was already facing significant constraints in expansionary fiscal spending, and the COVID-19 crisis further constricted the fiscal space available to Mali's domestic government. In 2020, at the onset of the global pandemic, annual government borrowing as a share of GDP had risen to 5% from 2% the previous year, the highest level since 2010 (Figure 11). Government debt has also been consistently increasing, with 2024 levels projected at 57% of GDP (Figure 12).

Figure 11. General government deficit (% share of GDP)



Source: IMF World Economic Outlook (April 2023 Edition)

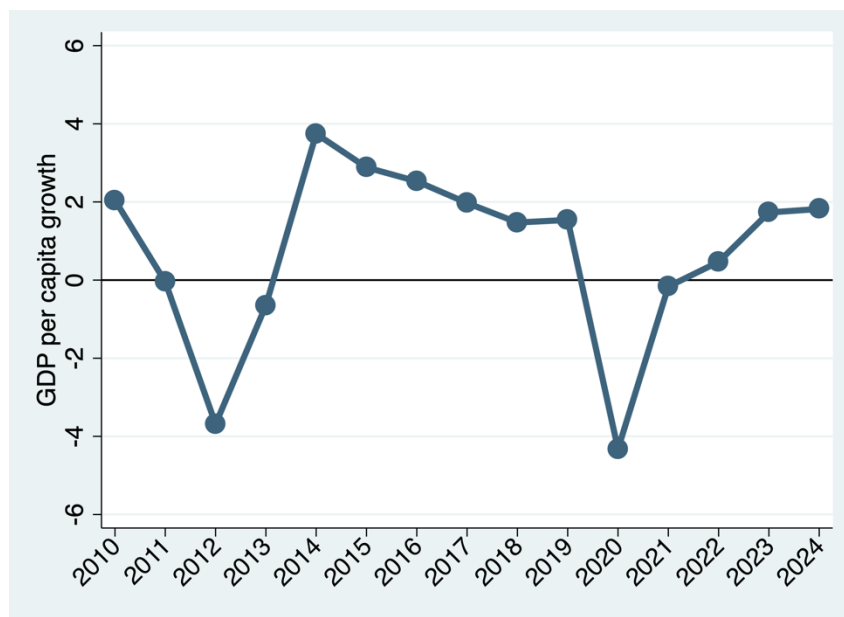
Figure 12. General government gross debt (% share of GDP)



Source: IMF World Economic Outlook (April 2023 Edition)

With the COVID-19 pandemic, it is unlikely that Mali will be able to rely on macroeconomic growth to increase public financing for health and projections indicate that Mali will not be able to go back to pre-COVID growth levels until 2023 (Figure 13).

Figure 13. Growth in per capita GDP



Source: IMF World Economic Outlook (April 2023 Edition)

This slightly grim economic and fiscal outlook is likely to have a major negative impact on Mali’s public spending on health for next couple of years. One way to explore the impact is to apply one scenario from Kurowski et al.<sup>37</sup>. The scenario, which is based on prior studies<sup>38,39</sup>, assumes that the observed share of health in government per capita spending is held constant (status quo in health priority in government spending) and thus per capita government spending on health will follow the trend in per capita GDP and general per capita government spending. The analysis suggests that in the absence of health sector reprioritization or stimulus spending, latest projections

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<sup>37</sup> Kurowski, C., D.B. Evans, A. Tandon, et al. 2021. “From Double Shock to Double Recovery: Implications and Options for Health Financing in the Time of COVID-19.” Health, Nutrition and Population Discussion Paper. World Bank: Washington, DC.

<sup>38</sup> Tandon, A., and C. Cashin. 2010. “Assessing Public Expenditure on Health from a Fiscal Space Perspective.” Health, Nutrition and Population (HNP) Discussion Paper. World Bank: Washington, DC.

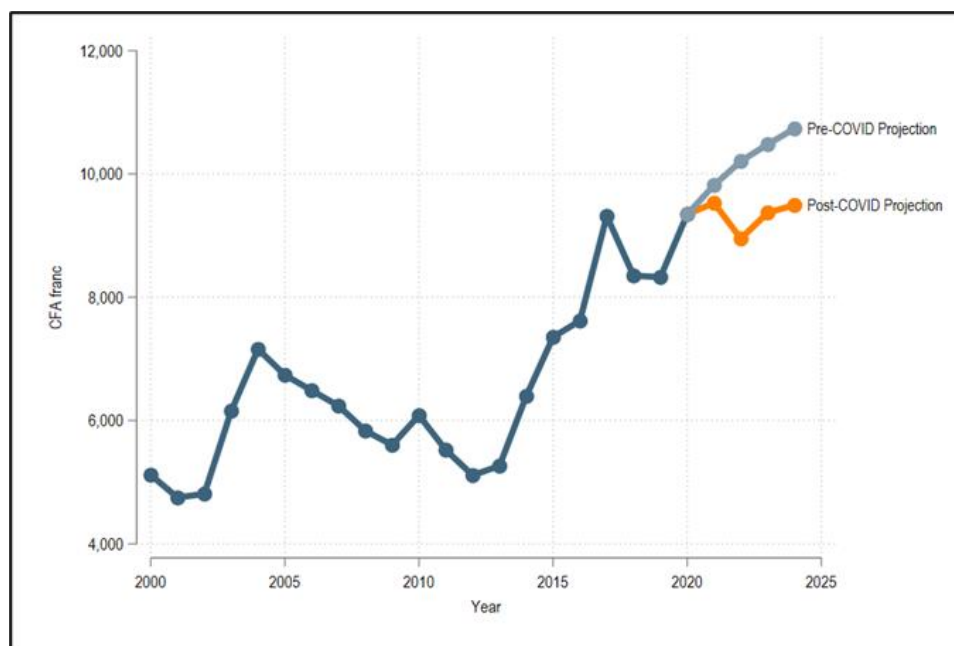
<sup>39</sup> Tandon, A., J. Cain, C. Kurowski, and I. Postolovska. 2018. “Intertemporal Dynamics of Public Financing for Universal Health Coverage: Accounting for Fiscal Space Across Countries.” Health, Nutrition and Population Discussion Paper. World Bank: Washington, DC.



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in per capita public expenditures on health in 2021 and beyond will be lower than expenditure projections based on pre-crisis macroeconomic trends (Figure 14).

*Figure 14: Per capita government spending on health in Mali, Pre- and Post-COVID projections*



*Source: Authors' calculations using data from IMF World Economic Outlook (April 2023 Edition) and WHO Global Health Expenditure Database (2022 Edition)*

## GLOSSARY & METHODS

**Catastrophic Health Expenditure (CHE):** occurs when out-of-pocket (OOP) health spending exceeds 10% or 25% of total household consumption or income).

**Constant:** Also referred to as 'real', refers to the value of a monetary variable with adjustments made to remove the impact of changes in prices of goods and services due to inflation. Constant series show the data for each year in the value of a particular base year. Thus, for example, data reported in constant 2017 prices show data for 2000 to 2017 in 2017 prices. Constant series are important as it is used to measure the true growth of a series (i.e., adjusting for the effects of inflation).

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How to Convert a Time Series Variable from Nominal to Constant? Nominal time series data can be converted to constant time series data using a GDP deflator. Constant time series data is calculated by dividing nominal time series data by the GDP deflator (expressed in hundredths term):  $\text{Constant time series} = \text{Nominal time series} / \text{GDP deflator (in hundredths)}$

**Debt Service Payments:** Debt service is a type of government expenditure that covers the repayment of interest and principal on a debt or liability by the government for a particular period of time.

**Domestic Resource Mobilization (DRM):** the willingness and ability of countries to increase domestically-sourced public financing for health, ideally in an efficient, equitable, and sustainable manner.

**Government Deficit/Surplus:** The difference between total government revenue and expenditure is called government deficit (if expenditure is greater) or government surplus (if revenue is greater). This is an important fiscal account that measures the extent to which general government is lending financing resources (in the case of government surpluses) or borrowing financial resources from other sectors and nonresidents in order to finance government spending (in the case of government deficits).

**Gross Domestic Product (GDP):** is a monetary measure of the market value of all the final goods and services produced within a country's borders in a specific time period, often annually.

**Gross National Income (GNI):** is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad.

**Health Financing Decomposition:** Per capita public health expenditure can be decomposed as the product of three elements. The first element of the decomposition is the prioritization of health by the central government measured by the percentage of total government expenditure attributed to the health sector. The second element is the size of government's total budget as a share of GDP. Finally, the third element is the level of per capita GDP. This third element can subsequently be decomposed into GDP and population.

**Health Financing Transition:** An empirically observed phenomenon that shows that as countries grow and develop there is a rise in health spending but that there is also a change

in the composition of health spending with a higher share coming from public and other compulsory prepaid sources and a lower share from external and OOP spending sources.<sup>40</sup>

How to Account for Changes in Per Capita Public Spending on Health Over Time? There are different ways to account for changes in per capita public spending on health.<sup>41</sup> One way is to focus on uncovering the relative contributions from a sub-set of factors by exploiting a key macroeconomic identity that, in any given years  $t$  and  $t+1$ , the following must hold true:

$$P_t = H_t E_t Y_t$$
$$P_{t+1} = H_{t+1} E_{t+1} Y_{t+1}$$

where  $P$  is per capita public financing for health in constant local currency units (LCUs),  $H$  is health's share of public expenditure,  $E$  is the public expenditure share of GDP, and  $Y$  is real GDP per capita in LCUs. Taking the logarithmic difference in  $t+1$  versus  $t$  (denoted by lowercase with 'hat') of public spending on health must mathematically equal the sum of the logarithmic growth rates in health's share of public expenditures, of aggregate public expenditures as share of GDP, and of GDP per capita:

$$\hat{p}_t = \hat{h}_t + \hat{e}_t + \hat{y}_t$$

In other terms, this implies that the growth rate of public financing for health ( $\hat{p}_t$ ) over a given time period must be exactly accounted for by changes in GDP per capita (that is, by economic growth, or  $\hat{y}_t$ ), changes in aggregated public expenditures as share of GDP ( $\hat{e}_t$ ), and by changes in health's share in aggregate public expenditure ( $\hat{h}_t$ ).

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<sup>40</sup> Fan, V. Y., and W. D. Savedoff. 2014. "The Health Financing Transition: A Conceptual Framework and Empirical Evidence." *Social Science and Medicine* 105: 112–121.

<sup>41</sup> Tandon, A., J.S. Cain, C. Kurowski, and I. Postolovska (2018). *Intertemporal Dynamics of Public Financing for Universal Health Coverage: Accounting for Fiscal Space Across Countries*. HNP Discussion Paper. Washington, D.C.: World Bank Group. Available: <http://documents.worldbank.org/curated/en/639541545281356938/Intertemporal-Dynamics-of-Public-Financing-for-Universal-Health-Coverage-Accounting-for-Fiscal-Space-Across-Countries>

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The log-difference method of calculating growth rates is frequently used in economic growth theory and calculates rates that are a very close approximations to the simple growth rates. The advantage of using this method is that it allows a multiplicative decomposition of the growth rate of a variable into the growth rates of its components.

**Human Capital Index:** A cross-country benchmarking exercise completed in 2018 by the World Bank Group Human Capital Project.<sup>42</sup> The index measures the amount of human capital that the average child born in 2018 expects to achieve.

**Inflation:** An increase in the prices of goods and services over time (a decline in prices is referred to as 'deflation'). Inflation is typically measured in terms of how prices of a representative basket of goods and services changes over time (referred to as changes in the consumer price index) or changes in the prices of actual goods and services consumed in an economy over time (based on changes in the GDP deflator). The GDP deflator is defined as the ratio of the GDP at market prices in current U.S. dollars to the GDP at market prices in constant (2000) U.S. dollars.<sup>43</sup>

**Low Income Countries (LICs):** Are currently defined as those countries that in 2021 had per capita income of US\$1,045 or less.

**Lower Middle Income (LMI) Countries:** Are currently defined by the World Bank as those countries that in 2020 had per capita income between US\$1,046 and US\$4,095.

**Nominal:** Also referred to as 'current', refers to the value of a monetary variable without any adjustments made for changes in prices of goods and services due to inflation.

**Non-Tax Revenue:** Revenue received by the general government from other revenue sources other than taxes. These include social contributions, grants, and other revenue such as property income, sales of goods and services, and fines, penalties, and forfeits.

**Out-of-Pocket:** Households' out-of-pocket expenditure is a direct payment for health care goods and services from the household primary income or savings (no third-party payer is

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<sup>42</sup> World Bank Group. 2018. The Human Capital Project. Washington DC: International Bank for Reconstruction and Development.

<sup>43</sup> World Bank Group Data Catalog. <https://datacatalog.worldbank.org/gdp-deflator-index-2000100-us-series>

involved). The payment is made by the user at the time of the purchase of goods or use of services.

**Peer countries selection:** Peer countries are selected using dynamic benchmarking tool kit<sup>44</sup>. With respect to country-to-country benchmarking, two sub-sets of structural and aspirational peers were defined using a macroeconomic, trade and investment (MTI) method. Firstly, structural peers are countries that share similar socio-economic features with the country focus and were selected according to several criteria: (i) commodity exporter, (ii) landlocked economy, (iii) GDP per capita in constant US\$, (iv) youth population as percentage of total population, and (v) the size of government, measured in government spending as percent share of GDP. The structural peers selected are Afghanistan, Burkina Faso, Chad, Uganda and Zimbabwe. Secondly, the aspirational peers are countries that used to be structural peers, but that improved faster and reached a higher level of development in terms of wealth and health. Ethiopia and Rwanda were selected as aspirational peers. Aspirational peers are countries that used to be structural peers, but that improved faster and reached a higher level of development in terms of wealth and health. Tajikistan, Uzbekistan, Laos and Rwanda were selected as aspirational peers. To prevent potential bias induced by the surge of the COVID-19 pandemic, all indicators referred to pre-Covid-19 situation. In addition, other comparators were also explored for convenience and to apply country-level practices in comparative analysis. The following were therefore manually selected: Democratic Republic of Congo, Niger, Nigeria and Senegal.

**Pritchett Landscape:** is a way of classifying trend patterns in growth rates of any variable inspired by and building upon Pritchett (2000).<sup>45</sup> Statistically identifiable policy-relevant 'break points' are determined using Pritchett's method as the year when a break in trend for a variable can be identified by estimating the equation below and finding the breakpoint year ( $t^*$ ) that minimizes the sum of squared errors over all  $t$ :

$$Y_t = a_1 * I(t \leq t^*) + b_1 t * I_1(t \leq t^*) + a_2 * I(t > t^*) + b_2 t * I(t > t^*) + \varepsilon_t,$$

where  $Y$  is any variable of interest such as per capita GDP or per capita public spending on health,  $I()$  is an indicator function (1 if the argument holds; 0 otherwise),  $t = [t_0, \dots, T]$  where  $t_0$

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<sup>44</sup> Matta, Samer. 2018. "Dynamic Benchmarking Tool." MTI Online Tools.

<sup>45</sup> Pritchett, Lant. 2000. "Understanding patterns of economic growth: searching for hills among plateaus, mountains, and plains (English)". The World Bank economic review. -- Vol. 14, no. 2 (May 2000), pp. 221-250.

is 2000, T is 2020,  $t^*$  is the breakpoint year that is chosen subject to the constraint that each segment of the trend covers a minimum of three years (that is,  $t^* - t_0 \geq 3$  and  $T - t^* \geq 3$ ) and a and bare the intercept and time-trend slope, respectively, where the suffix 1 or 2 represent the estimates before and after the estimated breakpoint. Once the breakpoint is determined, the landscape of growth patterns is classified as follows:

Pattern	Growth rate	
	Before break	After break
Steep Hill	$\geq 5$ percent	$\geq 5$ percent
Hill	$\geq 3$ percent	$\geq 3$ percent
Accelerator	0 percent $\geq$ & $< 3$ percent	$\geq 3$ percent
Steep Valley	$< 0$ percent	$\geq 5$ percent
Plateau	$\geq 3$ percent	0 percent $\geq$ & $< 3$ percent
Valley	$< 0$ percent	0 percent $\geq$ & $< 3$ percent
Plain	0 percent $\geq$ & $< 3$ percent	0 percent $\geq$ & $< 3$ percent
Mountain	$\geq 3$ percent	$< 0$ percent
Cliff	0 percent $\geq$ & $< 3$ percent	$< 0$ percent
Slippery Slope	$< 0$ percent	$< 0$ percent

**Social Health Insurance (SHI):** Social health insurance is a mandatory financing arrangement that ensures access to health care based on a compulsory payment of a non-risk-related contribution by or on behalf of the eligible person. Contributions are raised mainly through wage-related (and occasionally income-related) contributions that are shared between employers and employees. The social health insurance scheme is established by a specific public law, defining, among others, the eligibility, benefit package and rules for the contribution payment.

**Tax Revenue:** Revenue received by the general government from taxes. Taxes are compulsory, unrequited amounts receivable by government units from individuals, public enterprises, trade, royalties on natural resources and/or foreign aid.

**Total Government Expenditure:** Total expense and the net acquisition of nonfinancial assets by the government in order to fulfill their role of providing public goods and services and redistribution of income and wealth.

**Total Government Revenue:** Taxes, social contributions, grants receivable, and other revenue received by the government. Governments collect revenue in order to finance selected public goods and services that they provide to their citizens and to redistribute income and wealth by means of transfers.

**Universal Health Coverage (UHC):** As defined by the World Health Organization,<sup>46</sup> means that all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.<sup>47</sup>

**Universal Health Coverage (UHC) Service Coverage Index:** Measures the average coverage of essential services that include reproductive, maternal, newborn and child health, infectious diseases, noncommunicable diseases and service capacity and access, among the general population (as well among the most disadvantaged population).

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<sup>46</sup> World Health Organization 2019. "Universal Health Coverage" Accessed September 2020. Last updated January 2021.

<sup>47</sup> World Health Organization 2021. WHO Universal Health Coverage data portal. Accessed September 2020. Last updated January 2021.