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Christian Estmann
Henrik Hansen
John Rand

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University of Copenhagen
Faculty of Social Sciences
Department of Economics
www.econ.ku.dk/derg

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Christian Estmann[1]
Henrik Hansen[2]
John Rand[3]

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[1] ceh@jur.ku.dk. Department of Law, University of Copenhagen.
[2] henrik.hansen@econ.ku.dk. Department of Economics, University of Copenhagen.
[3] john.rand@econ.ku.dk. Department of Economics, University of Copenhagen.

1 Introduction

The fiscal policy responses to the COVID-19 crisis have been substantially smaller in most developing economies compared to the advanced economies. The IMF (January 2021) projects average overall fiscal deficits as a share of GDP in 2020 at 13.3% for advanced economies and only 5.7% for low-income developing countries. This is so despite estimates claiming that the COVID-19 shock is disproportionally more damaging for low-income countries as the pandemic is set to have dramatic consequences for poverty and inequality, especially in Sub-Saharan Africa (Valensesi 2020).

The fiscal responses in developing economies during COVID-19 share many characteristics of fiscal policy actions taken to alleviate other adverse events such as the Global Financial Crises, natural disasters, and other epidemics (World Bank 2011; 2020). Yet, the countries are restricted by the pre-crisis fiscal policy space within each country. As fiscal deficits and public debt increase, only countries with sustainable pre-crisis fiscal performance and low indebtedness are able to cushion the adverse impacts through a diversified portfolio of fiscal stimulus packages. Already indebted developing countries build up unsustainable fiscal deficits or must resort to reallocation of public expenditures, which may create severe problems for the post-crisis period, especially in the social sectors.

Reallocation of resources to finance the COVID-19 responses will likely reverse years of progress in education and disease control and treatment in developing economies (IMF April 2021; WHO 2020a). The WHO estimates that an additional 200-400 thousand people will die of TB in 2020 alone due to reallocation and disruption of health services. What is more, in 2018-2019, Africa's measles epidemic was spiking at alarming levels. The spread of measles is temporarily on hold due to social distance measures. Yet when the restrictions are lifted, the epidemic is expected to increase rapidly as measles immunisation campaigns have been suspended under the COVID-19 pandemic (Durrheim et al., 2021). Owing to the young age of the populations, the response to COVID-19 may be more deadly than the pandemic itself in many low-income countries. Consequently, it is important to understand the design and impact, intended and unintended, of the fiscal policy responses to COVID-19 in developing economies, especially given the very heterogeneous policies pursued in the past year.

The objective of this study is to map and analyse fiscal responses to COVID-19 in Danida's priority countries in Sub-Saharan Africa. The study analyses selected countries' fiscal forecasts and budgets covering the past 3 years to estimate both actual changes and deviations from published planning documents. Hence, the study provides a relatively simple analysis of the potential impacts of a pandemic crisis, such as COVID-19, based on fiscal budget information.

The study has four sections in addition to this introduction. Section 2 looks into what can be learned from previous health crises, centring on lessons for developing economies. Section 3 briefly explains the main economic and econometric models, used to quantify the

effects of fiscal policy interventions. Section 4 looks into the responses to COVID-19 in ten of Danida's priority countries in Sub-Saharan Africa. We discuss the probable short-, medium and long-term impacts of the responses and make simple comparisons. Section 5 offers concluding remarks and suggestions for broader assessments of continued monitoring and evaluation of the COVID-19 responses in the countries.

The study is based on publicly available information and data only. No interviews have been conducted and no classified information has been assessed or used.

2 What Can We Learn from Previous Health Crises?

Several studies have analysed the impact of fiscal stimulus packages in response to previous global pandemics. Most studies focus on either the Spanish flu (H1N1) pandemic in 1918-20 or the more recent Swine flu (H1N1) pandemic in 2009-10. Both pandemics occurred at times of other major events—World War I (1914-18) and the Global Financial Crisis (2008-09) — making attribution of cause-and-effect a challenge and direct comparison with COVID-19 difficult. Other recent pandemic records that are not analysed in the same detail include the Asian flu (H2N2) in 1957-58, the Hong Kong flu (H3N2) in 1968-69, as well as the more recent epidemics: the severe acute respiratory syndrome (SARS) in 2002-03, the avian flu (H5N1) in 2004-06 and the Middle East respiratory syndrome (MERS) in 2012.

COVID-19 differs from most of the studied pandemic and epidemic encounters both in terms of geographical coverage and in terms of the speed of contagion and casualities. Cirillo and Taleb (2020) and Jorda et al. (2020) ranks COVID-19 as the most severe health-related episode since the Spanish flu in 1918-20.

When an epidemic reaches a global scale with permanent disruptions (many fatalities) to labour supply, economic losses will be extensive and are likely to be persistent. In purely economic terms, this should be avoided. Thus, facing significant uncertainty about the long-term effects of COVID-19 on labour supply, strict containment policies can be seen as a "better-safe-than-sorry" strategy. This is especially so given that COVID-19 spreads faster than previous pandemics, in part because of greater international integration coupled with asymptomatic carriers (Boissay and Rungcharoenkitkul 2020).

However, whereas the Spanish flu affected especially younger working-age cohorts (Goldstein and Lee 2020), the COVID-19 pandemic is likely to lead to smaller permanent changes to the labour force as casualties are mainly among the older cohorts who are no longer in the workforce.[4] Yet, cohorts in utero during the Spanish flu pandemic had reduced educational attainment, increased rates of physical disability, lower income, lower socioeconomic status, and higher transfer payments later in life compared with birth cohorts just before and after the pandemic (Almond 2006). To this end, it should be noted that where previous

[4] Goldstein and Lee (2020) calculated life years lost (relative to the non-pandemic case) due to various pandemics and conclude that COVID-19 will reduce average life expectancy by 0.3 years, whereas the Spanish flu pandemic reduced life expectancy by 1.2 years.

pandemics have been associated with increased adverse obstetric outcomes or neonatal complications, currently no such evidence has been found regarding COVID-19 on new-borns (Egerup et al., 2021; La Cour Freiesleben et al., 2021). Even so, Egger et al. (2021) show that government assistance and household coping strategies during COVID-19 in nine developing countries (including Burkina Faso, Ghana, and Kenya) have been insufficient to sustain pre-crisis living standards, resulting in widespread food insecurity and dire economic conditions even 3 months into the crisis. They, for instance, show that an additional 38% of adults and an additional 69% of children in Kenya miss a daily meal due to COVID-19 and the imposed restrictions. Egger et al. conclude that *"the sharp rise in food insecurity among children is particularly alarming given the potentially large negative long-run effects of undernutrition on later life outcomes"* (p. 8). Uncertainty about the long-term impacts of COVID-19 on younger people could therefore be seen as requiring reasonable precautionary measures such as the current reactions to the pandemic.

Barro et al. (2020) consider the Spanish flu the pandemic most comparable to the current situation, even though the total excess death rate of COVID-19 is likely to be significantly smaller than that resulting from the Spanish flu, possibly because of advances in public health care and measures taken to mitigate the propagation. In fact, although Kontis et al. (2020) find excess death due to COVID-19, there is substantial cross-country heterogeneity in the mortality effects. Some countries have even had mortality rates below historical averages in 2020. This could signal that the labour supply shock of COVID-19 may be shorter-lived than the one experienced during and after the Spanish flu pandemic. This has important implications for fiscal policy.

In a series of cross-country regressions, Barro et al. (2020) found that the Spanish flu led to an average contraction of GDP of about 6 per cent.[5] This is comparable with estimates of the immediate impact of COVID-19 (IMF April 2021; World Bank January 2021). However, studies disagree about whether the economic impact of the Spanish flu was short-lived (temporary) with a quick reversion to the trend or if it had long-run (permanent) impacts on well-being (Basco et al. 2021). Additionally, there is an ongoing discussion about whether the Spanish flu pandemic tended to equalise societies (Jorda et al. 2020) or if it led to an increase in within-country inequality (Basco et al. 2021). These questions will also be important in the context of the COVID-19 pandemic, and they are related to identifying the pathways through which pandemics affect economic activity. The current assessment is that the COVID-19 shock and the short-run responses have led to increasing inequality (IMF October 2020; IMF April 2021).

Large-scale pandemics can both be seen as supply and demand shocks to the economy (Boissay and Rungcharoenkitkul 2020). The (short-run) supply shock comes directly

[5] For comparisons, the estimated economic cost of both the SARS epidemic and the 2009 H1N1 pandemic were on average 0.1 per cent of GDP while, for the Ebola epidemic, the estimated impact on GDP was 2% in Guinea, 3.4% in Liberia, and 3.3% in Sierra Leone (World Bank, 2014).

through the decline in the labour force and hours worked caused by sickness and death, leading to a significant drop in production. This effect is strengthened by the various social distancing measures that affect labour supply. Moreover, the long-run supply side effects will operate through the dynamics of the permanent shock (excess deaths) to the labour force that increase the capital-labour ratio. This decreases the rate of return on capital, which will reduce investments, resulting in a reduction in GDP growth. The debate about whether COVID-19 should be seen as a temporary or a permanent supply-side shock is therefore relevant, especially when discussing how to implement various fiscal stimulus packages.

The impact of social distancing measures during previous pandemics is interesting because it has been so widely used to contain the spread of COVID-19. Correia et al. (2020) utilised heterogeneity in containment measures across different jurisdictions in the U.S. during the Spanish flu. They found that cities and states to show how areas that introduced containment measures earlier had a faster return to pre-crisis income levels. This result signals that the short-run supply-side effects of the Spanish flu were significant and that containment measures positively affected economic recovery, at least in the medium term. In contrast, in a developing country context, Bandiera et al. (2019) and Rasul et al. (2020) found significant negative knock-on effects of adopting strict containment measures. Studying the impact of the Ebola outbreak in Sierra Leone, they found significant differences in dropout frequencies of female adolescents across different levels of severity of Ebola-related disruptions. Due to rapid contagion, village lockdowns and travel bans were imposed and all primary and secondary schools were closed for a full academic year. Based on across-village variation in the severity of Ebola-related disruption, the study shows that in highly disrupted villages with stricter containment enforcement, out-of-wedlock pregnancies increased for young women, and as a result, they experienced a persistent 16 percentage point drop in school enrollment post-crisis as compared with young women in less disrupted villages. As such, it is crucial to consider both the potential positive and negative long-term impacts of upholding strict containment measures for longer periods in a developing country context.

Turning to the demand side, the main mechanism through which the demand shocks work is by decreasing private consumption as unemployment and uncertainty about the future increases. As such, lockdowns may be seen as supply shocks with spillovers to the demand side. The pandemic may also directly influence demand because of changes in preferences. Demand-side effect may lead to a recession that persists long after the pandemic has ended (Andersen et al. 2020). We elaborate on this mechanism in detail in Section 3.

Analytical studies of fiscal policy responses to pandemics in developing economies are scarce. Evidence from the Spanish flu pandemic shows that fiscal deficits did not change significantly at that time (Jordà et al. 2020). Government support to households generally took the form of in-kind transfers of food rather than cash transfers, and fiscal initiatives for businesses (if any) took the form of partial compensation for losses sustained due to the

restrictions/forced lockdowns. Moreover, budget reallocation instruments, such as moving funds from social sectors to more general budget purposes, were dominating at the time. Fiscal policies were found, in general, to be slightly contractionary during the Spanish flu (Barro et al. 2020).

Jordà et al. (2020) also studied the long-run demand-side effects of different pandemics and found that health shocks are often followed by decades of low interest rates due to high precautionary saving and reduced investment preparedness. Thus, major pandemics may have long-run demand-side effects through changing consumption and investment patterns. Government interventions (including fiscal, monetary and regulatory measures) alleviating both demand and supply-side consequences are therefore likely to be called for.

3 Estimating the Size of Fiscal Policy Responses

While there appears to be consensus about the necessity of fiscal policy responses accompanying the containment policies, there is considerable debate about the type and magnitude of the specific policy interventions. We lack knowledge about the size of the short-run macroeconomic effects of changes in government spending and taxes, especially in developing economies. The limited knowledge combined with the importance of policy has also highlighted the lack of consensus among professional economists.

The problem of estimating the magnitude is one of attribution because most government expenditures and tax revenues are rule-based and typically tied to the level of economic activity. Therefore, both expenditures and tax revenues co-move with the economic activity making it very difficult, or impossible, to quantify the effect of discretionary changes in expenditures and revenues based on observed changes over time.

Our knowledge about the size of the effects of fiscal policies is accumulated from different empirical approaches, all of which have been actively used in both advanced and developing economies. These approaches are often categorised into three interrelated types of models, where each approach is related to data availability and the scope of the analysis (short-, medium- or long-term perspective). The toolbox for empirical investigations includes:

1. Social Accounting Matrix (SAM) multiplier models,
2. Dynamic stochastic general equilibrium (DSGE) models,
3. Aggregate time series or panel data models.

The three approaches share many advantages and shortcomings (Ramey 2019). The main advantage of the empirical models is that they all give insights into the size of fiscal policy multipliers relevant for policymakers. A central shortcoming is that they rarely estimate the impacts of detailed fiscal policies, such as increased expenditures on health-related activities or targeted cash transfers. A mutual challenge is that the quantification of macroeconomic effects always depends on untestable identifying assumptions. Results using any model within any of the three approaches will depend on the specific assumptions made by the researcher. In many economic and econometric models, these assumptions are technical

and difficult to comprehend for non-experts, be that trained economists or decision-makers.

SAM multiplier models are well suited for measuring the short-term impacts of unanticipated rapid-onset demand- or supply-side economic shocks. SAM models have been applied to assess the impact of the responses to COVID-19 in several of the priority countries. The Social Accounting Matrix (SAM) is a comprehensive, disaggregated and consistent data system that captures the interdependences in an economy at a given point in time. It is the basic building block of the more complex computable general equilibrium (CGE) models. If the economy in question has the excess production capacity and the unutilised labour resources (un- or underemployment), then the SAM multiplier framework can estimate the effects of exogenous shocks and fiscal policy interventions. The excess capacity assumptions ensure that exogenous changes in demand will trickle through the system, leading to changes in production without instigating price changes. Both direct and indirect effects of policy interventions will , therefore, set off changes in production activities and lead to differential impact on employment and incomes for different socioeconomic groups. The total intervention effect size is estimated through the so-called multiplier process. Suitable fiscal policy interventions are typically estimated to have a multiplier effect larger than one (Ramey, 2019).[6]

Although the assumptions of general excess capacity and price constancy are questionable, the data underlying the analytical approach define and determine the channels through which fiscal policy interventions are transmitted within the socioeconomic system (de Janvry and Kanbur 2006). As such, SAM multiplier analyses should be evaluated based on how well the SAM captures the channels and pathways through which fiscal policy interventions travel within the economic system. These so-called structural path analyses provide a transparent way to explain to policymakers the channels through which the COVID-19 shock and the subsequent policy initiatives affect the economy. This highlights a potential problem with the SAM multiplier approach. If the economic structures are changing, then the SAM data needs to be updated. The core building block of the SAM is an input-output (IO) table. The IO table is a matrix that shows the inputs each production sector uses from other sectors and how much the other sectors use the output from the specific sector. In many developing economies, the IO-table is only updated once every 10 years. Thus, the economic structure estimated by the SAM may not represent the current structure well.

[6] An example of a multiplier effect is a cash transfer program targeted at poor households. Such an intervention will lead to an increase in domestic food demand. The magnitude of the increase will depend on the target groups' propensity-to-consume and demand for imported consumer goods. The subsequent increase in food production needed to satisfy the increased demand will lead to further employment and income increases, and so on until the multiplier process dampens. Whether the total impact of the cash transfer program outweighs the cost depends on the size of the multiplier.

The main building block of traditional Computable General Equilibrium (CGE) models is the SAM. CGE models, therefore, incorporate the taxonomy of the underlying SAM and the channels and pathways identified by the data structure. The CGE models augment the SAM by adding structural and institutional characteristics affecting the functioning of markets and the behaviour of actors. SAM multiplier and CGE models are often used in South Africa and a relevant example of the use is given in Arendt et al. (2020a,b) in which the impact of COVID-19 on the South African economy, is quantified. The two papers examine the implications of lockdown policies for income distribution and food security in South Africa. They found that lockdown imposes large economic costs and those at the lower end of the education distribution are significantly strongly affected. As a result, households with low levels of educational attainment and high dependence on labour income will experience a sizeable income shock that can threaten their food security. However, in South Africa, incomes for the most exposed households are protected by government transfer payments.

The structure of large scale *Dynamic Stochastic General Equilibrium (DSGE) models* are similar to that of CGE models, but with the added complexity of optimising behaviour for firms and households in a dynamic and stochastic environment. In DSGE models, households, firms, and governments are maximising intertemporal objective functions, which explains how the economy responds to different shocks, at least in the short- and medium-run. Thus, highly stylised mathematical descriptions of economic behaviour are key building blocks of these models.

Can such individualised behavioural modelling be done in a meaningful way in a developing economy context, facing large-scale disruptions? Besides requiring good detailed data as well as modelling capabilities, both Blanchard (2018) and Stiglitz (2018) question the usefulness of DSGE models in performing the roles of explaining and predicting economic events, as well as guiding economic policy after a shock like COVID-19. They argue that the models are only as good as their modelled micro-foundations, and if they are off the mark or too restrictive, then the predictions of the models will be wrong. The complex dynamic structure has so far led to highly restricted DSGE models in terms of differences in socioeconomic groups questioning their suitability in a developing country context. Ramey (2019) highlight that although DSGE models can be used for counterfactual analysis because they are based on estimated structural parameters, the assumptions made about the interplay between various fiscal stimuli and agent behaviour often lack sufficient detail.

Several of the Danida priority countries use DSGE models for policy analysis. However, we are not aware of any analyses of the COVID-19 pandemic that use these policy models. One reason may be that DSGE models are often tailored to analyses of monetary policies and therefore quite sparse when it comes to details about fiscal policies. Nevertheless, Morsy et al. (2020) combine an Africa-wide DSGE model with household survey data from 50 African countries (including all Danida priority countries besides Somalia) to assess the impact of

the pandemic on growth and poverty. The analysis is highly stylised and given the heterogeneity of fiscal policies adopted among the Danida priority countries, it is not possible to disentangle mechanisms and pathways from that analysis.

As noted, DSGE models have a strong focus on economic theory in the dynamic responses to shocks and interventions, which severely restricts the models' ability to fit the data. *Aggregate time series models* such as Vector Auto-regressions (VARs) disregard strict economic foundations to attain better congruence with the macroeconomic data.

Vector Auto-regressions are statistical models that describe co-movements over time using auto-covariance functions. VARs have proven to be very useful for describing the behaviour of economic and financial time series and for forecasting. In addition to data description and forecasting, the models are also used for structural inference and policy analysis. It is in the change from data description to structural analyses (from traditional VAR to structural VAR – the so-called SVAR) where the critical identifying assumptions are made.

In the SVAR literature, there is considerable disagreement about the size, and even the sign, of fiscal multipliers. The wide range of multiplier estimates can be traced to differences in the identification of the underlying fiscal shocks. Caldara and Kamps (2017) use a new identification strategy that includes non-fiscal data to identify discretionary changes in government expenditure and taxation. They find that increases in government spending have a larger impact on economic activity than tax cuts.

This is in contrast to the deduction in Ramey's (2019) survey of the literature on fiscal multipliers, concluding that government spending multipliers range from 0.6 to 1, whereas tax multipliers range from 2 to 3. Focusing on developing countries, Carriere-Swallow et al. (2018) support the findings in Ramey (2019), but show that fiscal multipliers are, on average, only half the size in developing economies, thereby suggesting that fiscal stimulus packages may be less effective in response to a pandemic in low-income countries.

In sum, even before the COVID-19 pandemic, there was widespread discussion and disagreement about the impact of fiscal policy interventions on the aggregate level of economic activity, not least in developing economies. Some models will predict high impacts (SAM multiplier models and some SVARs) while others will predict low impacts (most DSGEs and some SVARs). Adding the COVID-19 shock and lockdown responses increases the complexity of the problem. Thus, although the economic models provide guiding principles for governments to follow, quantifying the impacts will be extremely challenging, especially if the pandemic changes underlying economic structures.[7]

[7] Lenza and Primiceri (2020) address the problem of estimation and prediction using VAR models after the outbreak of COVID-19. Their suggestion is to omit the pandemic period when the model parameters are estimated but use the information in predictions. This essentially entails an assumption that the containment policies have not changed the economic structures.

4 Country Cases

In the following, we refrain from model-based analyses of aggregate impacts of given fiscal policies and instead focus on describing the actual fiscal policies made in the countries in question. Our focus is on the ten Danida priority countries: Burkina Faso, Ethiopia, Ghana, Kenya, Mali, Niger, Somalia, South Africa, Tanzania and Uganda. The aim is to give a snapshot of the fiscal policy responses in the ten countries in 2020 as it is recorded in the early spring of 2021 and analyse how these deviated from pre-COVID-19 planning documents for 2020.[8]

Immediate responses can be classified into three broad categories: Impulse, Deferrals and Financing (IMF April 2020). *Impulse* is the additional government spending (*e.g.,* purchase of medical resources, keeping publicly employed people in employment, subsidising firms, and new public investments) and foregone revenue (*e.g.*, cancellation of taxes). These responses immediately lead to the deterioration of the budget balance without any direct link to later recompense. *Deferrals* are decisions to defer certain payments, including taxes and social security contributions, and the suspension of debt services. These responses immediately lead to improvement in the government budget balance but with potential consequences for future fiscal policy discretion. *Financing* refers to guarantees, credit lines and liquidity assistance that many countries are relying upon. These measures improve the current liquidity position but will create contingent liabilities, which will turn into actual expenses later on.

In addition to the immediate fiscal responses, there are also budget reallocations across sectors within the 2020 budget. As emphasised in the World Bank (2021b), two-thirds of low- and lower-middle-income countries have cut their education budgets since the onset of the COVID-19 pandemic.[9] This is not surprising given the overall reduction in economic activity, and the more interesting question is whether education spending has decreased more than the overall contraction of the countries' fiscal space. The World Bank (2021b) finds that budget changes for education have been relatively small (as a share of total government spending).

Al-Samarrai et al. (2020) also estimate the size of budget reallocations across countries, showing that governments have reprioritized health and social protection in the short run and often reduced the share of the budget allocated to education. Through simulated model scenarios, Al-Samarrai et al. show that the average growth in public spending per capita on education in Sub-Saharan Africa was expected to be 7.7% before the COVID-19 shock, whereas it dropped to 6.5% after COVID-19 without budget reallocations and to -4.2% with

[8] Fjeldstad and Therkildsen (2020) also look at policy responses to the pandemic in Danida priority countries and find that they have varied markedly in terms of degrees of lockdown and changes to tax policies and expenditure. The present study takes a somewhat different perspective and analytical approach based on updated data.

[9] Of the 10 Danida priority countries, only Ethiopia, Kenya, Tanzania and Uganda are included in the World Bank (2021b) study.

budget reallocations. Thus, on average, the reallocation of funds has had a much larger impact on expenditures for education than the change in the overall fiscal stance. Such budget reallocations can be more damaging in the long run compared to the fiscal policy instruments referred to above. The potential damage is illustrated in Bandiera et al. (2019) and Rasul et al. (2020), as explained in Section 3.

In the following, we list and comment on the three broad fiscal policy categories and fiscal reallocation based on the most recent country-level data. Our data is obtained through secondary and online data sources, including data from national statistical offices and ministries of finance, supplemented by information from official Danish representations, IMF and World Bank sources. Data availability and quality differ substantially between countries. The data presented here have been thoroughly examined using a source-based triangulation approach. Thus, we have verified as many data points using as many different data sources as possible.

Table 1 gives an overview of various Impulse, Deferrals, and Financing measures, in the ten countries while Table 2 shows total revenue and expenditures by quarter (and year) in 2019 and 2020.[10] The reallocation of government expenditures is depicted in Table 3 by comparing IMF country projections for 2020 as estimated in October 2019, April 2020, October 2020, and April 2021 and in Table 4 by looking at current social sector expenditure details by function compared to their averages dating three years back. In the following, we will give country-specific comments on the results in each table and brief country summaries of initiatives taken to combat COVID-19.

Table 1: Fiscal Policy Response Overview

	Announced Stimulus (% of GDP)	COVID-19 health spending (% of total gov. exp.)	Tax deferrals and exemptions	Corporate guarantees and subsidies	Cash transfers	Food assistance
Burkina Faso	*NA*	*NA*	YES	YES		YES
Ethiopia	1.5 - 1.75	4.0	YES	YES	YES	YES
Ghana	3.0	5.4	YES	YES		
Kenya	0.4 - 0.6	1.8	YES	YES	YES	YES
Mali	1.0	2.7	YES	YES	YES	YES
Niger	1.3	*NA*		YES	YES	YES
Somalia	*NA*	*NA*	YES			
South Africa	10.3	*NA*	YES	YES	YES	YES
Tanzania	0.7	0.1	YES	YES	YES	
Uganda	1.0 - 1.5	1.5	YES	YES	YES	YES

Source: IMF (2021) and Africa Fiscal Policy Monitor (2021).

[10] Monetary policy changes in the ten countries are summarised in Appendix Table A.

Table 2: Quarterly Revenue and Expenditures by Country

	Total Revenue (% of GDP)					Total Expenditures (% of GDP)					Surplus
2019	Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Year
Burkina Faso	19	23	19	23	**20**	19	27	23	26	**23**	-3
Ethiopia	10	14	13	15	**12**	15	23	13	16	**19**	-7
Ghana	12	9	20	14	**14**	18	14	30	11	**20**	-6
Kenya	15	20	17	21	**17**	23	31	22	28	**25**	-8
Mali	18	19	32	19	**23**	12	14	20	36	**15**	8
Niger	17	29	19	41	**22**	18	23	22	30	**21**	1
South Africa	28	25	24	27	**26**	33	30	35	31	**32**	-6
Tanzania	14	13	14	16	**13**	17	19	15	19	**17**	-4
Uganda	12	13	12	15	**12**	14	19	20	19	**18**	-6
2020											
Burkina Faso	19	17	24		**20**	23	26	31		**27**	-7
Ethiopia	10	10	9		**10**	13	21	11		**17**	-7
Ghana	16	9	17		**14**	29	16	31		**25**	-11
Kenya	15	15	14		**15**	25	26	19		**24**	-9
Mali	15	16	16		**16**	15	19	19		**17**	-1
Niger	17	32	34		**28**	18	25	25		**22**	6
South Africa	30	19	22		**25**	38	29	41		**36**	-11
Tanzania	15	14	*NA*		**14**	17	15	*NA*		**16**	-2
Uganda	12	11	11		**12**	19	19	21		**20**	-8

Source: National Accounts Data.

Note: All numbers have been compared to (annual) IMF revenue and expenditure estimates. Several estimates deviate from IMF revenue and expenditure estimates. "Total expenditures" applied in Table B and Table D are not always consistent. This is because it is derived from two different data sources. For many countries, the data is extracted from execution reports and not a database. In the reports, there is often a *"Total Revenue/Expenditure"* table and for some countries, a table on *"Expenditure by function/ministry"*. The "total expenditure" in the expenditure by function table is often less than the revenue/expenditure table. This is likely to be due to expenditures such as re-lending, movements in holdings, repayments on government debt and sometimes also interest payments. Because we want to be as close to the raw data as possible we compare the social expenditures to the total expenditures for which the data comes. Lastly, the data may be provisional as the execution reports are published quarterly.

Table 3: IMF projections for 2020 for the ten Danida priority countries

	Economic growth (%)				Fiscal deficit (% of GDP)			
Date of projection	Oct 2019	Apr 2020	Oct 2020	Apr 2021	Oct 2019	Apr 2020	Oct 2020	Apr 2021
Burkina Faso	6.0	2.0	-2.0	0.8	-3.0	-5.0	-6.1	-5.2
Ethiopia	7.2	3.2	1.9	6.1	-3.0	-3.0	-3.5	-2.8
Ghana	5.6	1.5	0.9	0.9	-6.1	-10.0	-16.4	-16.0
Kenya	6.0	1.0	1.0	-0.1	-6.6	-7.7	-8.4	-8.4
Mali	5.0	1.5	-2.0	-2.0	-3.0	-5.8	-6.2	-5.5
Niger	6.0	1.0	0.5	1.2	-3.0	-4.2	-4.8	-5.8
Somalia	3.2	*NA*	-2.5	*NA*	0.4	*NA*	-2.3	*NA*
South Africa	1.1	-5.8	-8.0	-7.0	-6.7	-13.3	-14.0	-12.2
Tanzania	5.7	2.0	1.9	1.0	-3.5	-3.8	-1.9	-1.0
Uganda	6.2	3.5	-0.3	-2.1	-8.6	-6.8	-6.6	-7.6
	Government debt (% of GDP)				External debt (% of GDP)			
Date of projection	Oct 2019	April 2020	Oct 2020	Apr 2021	Oct 2019	April 2020	Oct 2020	Apr 2021
Burkina Faso	42.6	43.0	46.6	44.3	22.8	22.9	26.7	24.1
Ethiopia	54.4	56.9	56.1	55.3	28.0	29.9	29.2	32.7
Ghana	63.5	67.6	76.7	78.0	31.9	36.0	34.5	32.0
Kenya	61.3	64.5	66.4	68.7	31.8	31.3	33.7	36.1
Mali	38.2	44.7	44.8	44.5	25.4	28.6	28.6	26.6
Niger	54.3	47.1	48.3	44.2	37.3	29.3	31.2	31.0
Somalia	*NA*	*NA*	*NA*	*NA*	73.3	*NA*	84.1	*NA*
South Africa	64.2	77.4	78.8	77.1	19.8	22.0	31.5	30.9
Tanzania	38.2	40.0	38.5	38.2	25.0	28.1	28.0	28.0
Uganda	47.0	46.3	46.0	45.7	31.2	29.0	29.6	29.7

Source: IMF Regional Outlook - Sub Saharan Africa - October 2019, April 2020 and October 2020, IMF Fiscal Monitor, April 2021. For Somalia World Bank (June 2020).

Table 4: Social Sector – Reallocations for selected countries

Before / During COVID-19	Total expenditure (% of GDP)	Execution rate (%)	Health (% of Tot Exp.)	Education (% of Tot Exp.)
Ethiopia	20.1 / 16.9	106 / 116	11.1 / 11.2	23.6 / 23.9
Kenya	18.7 / 18.1	90 / 86	3.8 / 7.8	17.6 / 11.0
Mali	16.7 / 17.3	71 / 68	4.2 / 5.3	19.5 / 18.4
Niger	16.5 / 22.4	61 / 78	7.0 / 5.8	18.5 / 15.0
South Africa	30.6 / 35.7	100 / 100	3.1 / 3.2	6.4 / 6.9
Uganda	15.8 / 16.9	65 / 58	6.1 / 5.4	11.9 / 5.1

Note: The figures for "before COVID" are based on 2017, 2018 and 2019 Q1, Q2 and Q3 averages while the During COVID-19 figures are Q1, Q2 and Q3 averages in 2020. For Ethiopia only Q1 and Q2 and for South Africa Q1, Q2, Q3 and Q4.

Because the slowdown in economic activity is an outcome of the social distancing and lockdowns (the supply effects), it is important to assess the fiscal policies in conjunction with the containment measures in each country. It is challenging to give succinct and comparable descriptions of the different containment restrictions. In large part because the widespread use of these policies is a new phenomenon. However, a group of researchers at the Blavatnik School of Government at Oxford University (Hale et al. 2021) have collected information on the most common government responses covering more than 180 countries. The various government responses are measured using 20 different indicators. Eight of the indicators give information about containment and lockdown policies using ordinal scales to measure the severity of the policy. For example, on a daily basis, Hale et al. (2021) measure the degree of school closing in each country and assign an integer (0, 1, 2 or 3) based on the government policy. Specifically, a country is assigned a school closure value based on the following classification of actions:

0 The government takes no measures
1 The government recommends closing or all schools open with alterations resulting in significant differences compared to non-COVID-19 operations
2 The government requires closing (only some levels or categories, e.g. just high school, or just public schools)
3 The government requires closing of schools at all levels.

In addition to the school closing, Hale et al. (2021) also record workplace closing, using a similar categorization of restrictions (0-3), cancellation of public events (on a 0-2 scale), restrictions on gatherings (0-4 scale), the closing of public transport (0-2 scale), confinement to stay at home (0-3 scale), restrictions on internal movement between regions and cities (0-2 scale) and restrictions on international travel (0-3 scale). Moreover, additional indicators measure health policy responses, including public information campaigns (0-2 scale), testing policies (0-3 scale), contact tracing (0-3 scale), policies for facial coverings (0-4 scale) and vaccine delivery policies (0-5 scale).[11]

[11] All indicators are explained in detail at the CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford. https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker.

Table 5 presents the monthly development in the main lockdown policies for the ten Danida priority countries and Denmark. The monthly data is computed by averaging the values of the individual indexes over each month. Thus, a non-integer monthly average indicates that the index changed value during the month in question. For example, Burkina Faso has an average of 1.6 for school closings in March 2020 (see the first entry in Table 5). This value is just above 1.5 because Burkina Faso had no restrictions on schools from March 1st (an index value of 0) but changed to closing of schools at all levels on March 16th (an index value of 3). The schools were closed in April and May 2020 and reopened fully on June 1st. This is seen from the index values 3 in April and May and 0 (zero) in June, onwards. Burkina Faso reintroduced some restrictions (index value 1) on October 20 and 21, resulting in a monthly average of 0.1 for October 2020. Monthly index values for other countries and other indicators are computed in the same way.

Table 5 shows the monthly averages for four of the indicators: School closing, Workplace closing, Cancellation of public events and Restrictions on gatherings. We present these indicators to illustrate that several of the ten Danida priority countries invoked very strict lockdown policies and further to illustrate the large variation in the measures applied across the ten countries. Table 5 has a colour-coding to ease readability and comparisons across months and countries. The darker grey indicates higher index values, corresponding to more widespread lockdowns and more severe restrictions on public gatherings. This last column in the table shows the averages of the monthly index values for the 12 months from March 2020 to February 2021. The table shows that the lockdown and containment policies in Denmark were quite close to an average of the policies – as measured by the indexes – across the ten Danida priority countries.

In addition to the individual containment policies, the overall response to the COVID-19 shock can also be assessed and compared using a combined containment and health index, which is computed as the average of 13 individual indicators. The containment and health index is a standardised (0-100) sum of 14 different indicators: 8 lockdown indicators, and 6 health policy indicators. The four lockdown indicators in Table 5 are included in the index. Additionally, the indicators of closing of public transport, confinement to home instructions, restrictions on internal travel, and restrictions on international travel are also included. For health policies, the index covers the presence of public information campaigns, access to testing, contact tracing, mandatory use of facial coverings outside the home, vaccine delivery for different groups, and policies for the protection of elderly people. The index values, on a scale from 0 to 100, for the ten countries and Denmark are given in Table 6. The entries in Table 6 are also colour-coded with darker grey indicating higher index values.

Table 5: Lockdown responses in the ten Danida priority countries and in Denmark

	Mar 20	Apr 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Avg.
School closing													
Burkina Faso	1.6	3.0	3.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.6
Ethiopia	1.3	3.0	3.0	3.0	3.0	3.0	3.0	2.2	1.0	1.0	1.0	1.0	2.1
Ghana	1.6	3.0	3.0	2.7	2.0	2.0	2.0	2.0	2.0	2.0	1.5	0.0	2.0
Kenya	1.7	3.0	3.0	3.0	3.0	3.0	3.0	2.1	2.0	2.0	1.1	1.0	2.3
Mali	1.3	3.0	3.0	2.0	2.0	2.0	1.4	1.0	1.0	1.9	2.6	1.0	1.9
Niger	1.2	3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	0.0	0.0	1.1
Somalia	1.1	3.0	3.0	3.0	3.0	1.9	1.0	1.0	1.0	1.0	0.6	0.8	1.7
South Africa	1.4	3.0	3.0	2.2	2.0	1.7	1.0	0.0	0.0	0.8	2.1	1.1	1.5
Tanzania	1.4	3.0	3.0	1.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.4
Uganda	1.2	3.0	3.0	3.0	3.0	3.0	3.0	2.5	2.0	2.0	2.0	2.0	2.5
Denmark	1.8	2.5	2.0	2.0	2.0	1.0	1.0	0.7	1.1	1.7	2.9	2.3	1.7
Work place closing													
Burkina Faso	0.7	2.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Ethiopia	0.5	2.0	2.0	2.0	2.0	2.0	2.0	1.1	1.0	1.0	1.0	1.0	1.5
Ghana	0.2	2.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	2.0	1.1
Kenya	0.8	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.4
Mali	0.5	2.0	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.8	2.0	2.0	1.3
Niger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	0.3
Somalia	0.0	0.7	0.9	0.0	0.0	0.0	0.0	0.7	0.2	0.0	0.0	0.0	0.2
South Africa	0.6	3.0	2.0	2.0	2.0	2.0	1.6	1.0	1.0	1.0	1.0	1.0	1.5
Tanzania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uganda	0.7	3.0	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Denmark	1.1	2.0	2.0	2.0	2.0	2.0	2.0	1.3	1.0	1.7	2.9	2.7	1.9
Cancellation of public events													
Burkina Faso	1.3	2.0	2.0	2.0	2.0	2.0	2.0	1.0	0.0	0.0	0.0	0.0	1.2
Ethiopia	1.0	2.0	2.0	2.0	2.0	2.0	2.0	1.3	1.3	1.0	1.0	1.0	1.6
Ghana	1.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.0	1.0	1.0	1.2	1.6
Kenya	1.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
Mali	0.5	2.0	2.0	2.0	2.0	2.0	2.0	1.2	1.0	1.5	1.5	2.0	1.6
Niger	1.2	2.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.0	1.0	0.6
Somalia	0.8	2.0	2.0	2.0	0.0	0.0	0.0	0.7	1.0	1.0	0.1	0.4	0.8
South Africa	1.0	2.0	2.0	2.0	2.0	2.0	1.6	1.0	1.0	1.0	1.9	1.5	1.6
Tanzania	1.0	2.0	2.0	1.0	1.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.7
Uganda	0.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.3	1.0	1.0	1.0	1.6
Denmark	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.7	2.0	2.0	1.2
Restrictions on gatherings													
Burkina Faso	0.4	1.0	2.8	3.0	3.0	3.0	3.0	3.0	3.0	0.0	0.0	0.0	1.9
Ethiopia	0.5	3.3	4.0	4.0	4.0	4.0	4.0	3.1	3.0	3.0	2.2	2.8	3.2
Ghana	1.6	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9
Kenya	2.5	4.0	4.0	4.0	3.7	3.0	3.0	2.3	3.0	3.0	2.8	2.0	3.1
Mali	0.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8
Niger	1.5	3.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.0	2.7	1.0
Somalia	1.3	3.0	2.7	0.5	0.0	0.0	0.8	4.0	4.0	4.0	0.3	0.6	1.8
South Africa	1.6	3.0	3.0	3.0	3.0	3.5	3.3	2.0	2.0	2.2	3.8	3.5	2.8
Tanzania	1.5	3.0	3.0	3.0	3.0	3.0	1.6	0.0	0.0	0.0	0.0	0.0	1.5
Uganda	0.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.5	2.0	2.0	2.0	3.1
Denmark	2.3	4.0	3.2	3.0	2.2	2.0	2.7	2.8	4.0	4.0	4.0	4.0	3.2

Source: CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker.

Notes: The restriction indexes take higher values when more restrictions are imposed. The values differ by index as explained below.

School closing: 0 - no measures; 1 - recommend closing or all schools open with alterations resulting in significant differences compared to non-COVID-19 operations; 2 - require closing (only some levels or categories, e.g. just high school, or just public schools); 3 - require closing all levels.

Workplace closing: 0 - no measures; 1 - recommend closing (or recommend work from home); 2 - require closing (or work from home) for some sectors or categories of workers; 3 - require closing (or work from home) for all-but-essential workplaces (e.g. grocery stores, doctors).

Cancellation of public events: 0 - no measures; 1 - recommend cancelling; 2 - require cancelling.

Restrictions in gatherings: 0 - no restrictions; 1 - restrictions on very large gatherings (the limit is above 1000 people); 2 - restrictions on gatherings between 101-1000 people; 3 - restrictions on gatherings between 11-100 people; 4 - restrictions on gatherings of 10 people or less.

Table 6: Containment and health index in the ten Danida priority countries and Denmark

	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Avg.
Burkina Faso	31	64	57	44	44	47	44	38	32	29	30	24	40
Ethiopia	21	60	63	63	63	65	69	60	55	55	51	49	56
Ghana	27	64	55	55	55	55	50	50	46	46	46	47	50
Kenya	34	72	77	77	73	68	70	58	58	60	57	52	63
Mali	14	53	53	49	49	45	44	40	39	49	50	48	44
Niger	18	47	40	28	28	24	21	19	27	30	32	32	29
Somalia	15	42	45	38	27	23	37	40	38	37	24	21	32
South Africa	35	77	81	77	78	77	67	52	52	57	70	65	66
Tanzania	15	36	35	27	24	22	17	15	16	12	9	9	20
Uganda	27	71	73	71	70	72	70	62	49	45	44	49	59
Denmark	41	58	56	52	50	48	49	44	47	52	67	66	53

Source: CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker.
Notes: The containment and health index is a standardized (0-100) sum of 14 different indicators; 8 lock down indicators and 6 health policy indicators. The four lock down indicators in Table 5 are included in the index. In addition, indicators of closing of public transport, confinement to home instructions, restrictions on internal travel and restrictions on international travel are also included. For health policies, the index includes the presence of public information campaigns, access to testing, contact tracing, mandatory use of facial coverings outside the home, vaccine delivery for different groups and policies for the protection of elderly people.

4.1 Burkina Faso

Burkina Faso is among the least restrictive of the countries considered in terms of containment measures (see Tables 5 and 6). Looking at the containment and health index (Table 6), Burkina Faso is below the average of the ten countries and apart from the early spring of 2020, it has been less restrictive than Denmark.

Even so, Burkina Faso adjusted its fiscal policy (IMF 2021). The measures undertaken were to: (i) Lower various taxes and fees plus delaying/waiving tax payments on formal sector operators. In addition, all on-site tax inspection operations have been suspended. (ii) Suspend the majority of fees charged on informal sector operators plus coverage of utility fees for the most vulnerable groups. (iii) Provide direct food transfers and other in-kind assistance to households and local small businesses and, in general, support for various food security measures. (iv) Set up a partial guarantee fund to help ease the financial sector's possibilities in providing credit to private businesses in targeted sectors. As such, Impulse, Deferrals and Financing mechanisms were all used in Burkina Faso, as outlined in Table 1.

The IMF (2021) highlights that revenue collection has been immediately affected by the initiatives taken. However, as documented in Table 2, the revenue share of GDP has remained constant at 20% in 2019 and 2020, illustrating that the decline in revenue is largely driven by the overall drop in economic activity. In terms of expenditures, room has been made for increasing health and unconditional in-kind transfer expenditures, which has resulted in expenditure increases of 7 percentage points, as a share of GDP. However, the government has tried to keep the total wage bill unchanged, meaning that non-priority spending on goods and services has been reduced. This could signal that there has been a short-run budget reallocation effect within the social sectors—increasing health expenditures leading to fewer government funds available for general education, at least in the short run.

Unfortunately, good quality fiscal data, categorized by function is not available for Burkina Faso, so it is difficult to assess the magnitude of government budget reallocation. However, the IMF's October 2019 growth projections were 6%. In October 2020, the projection was down to -2.0% (Table 3). However, IMF revised the growth projection upward from October 2020 to April 2021 and the latest projection is a small, but positive, growth rate of 0.8%. In 2020, the overall fiscal deficit is now expected to be around 5.2% of GDP, which is an increase in the deficit by 2.2 percentage points as compared to the pre-COVID-19 projected budgeted deficit.[12] The increase in the deficit is expected to be fully financed by additional external budget support, which explains that pre- and post-COVID-19 debt-to-GDP estimates remain relatively constant.

4.2 Ethiopia

Ethiopia has followed a relatively strict lock-down strategy to combat COVID-19. This is indicated by the containment health index in Table 6 (a value of 56) and the detailed information in Table 5 and Appendix B. Ethiopia ranks near the top of the ten countries in terms of containment policies. Importantly, the government announced that layoffs by private employers would not be tolerated during the early stages of the crisis.

GDP growth is projected to be 'only' 1.1 percentage points lower than the pre-crisis projection (Table 3). This should be contrasted to earlier estimates indicating that GDP would contract as much as 11.2 percentage points as compared to the pre-crisis growth estimate of between 7.2 to 8.5% (Abasimel and Fufa, 2021). This inconsistency mainly reflects the uncertainty in responses combined with different modelling choices and assumptions made about the persistence of the pandemic.

Ethiopia was early to announce an immediate health response plan that would increase spending by 1.75% of GDP (Table 1, IMF 2021). Funds were allocated as follows: 0.15% of GDP for an immediate healthcare package and 0.40% of GDP for additional health sector response, 0.60% of GDP for emergency food distribution, 0.30% of GDP for provision of emergency shelter and non-food items; and 0.30% of GDP allocated to miscellaneous support activities. In addition, an expansion of the Productive Safety Net Programme (PSNP) with donor support is currently under development.

Economic measures to support firms and employment were also taken, especially targeted at exporting companies. This included (i) Various tax debt forgiveness initiatives and tax subsidies for firms paying employees despite being temporarily closed. (ii) Export and import companies were directly supported through free logistics support and removal of import taxes on certain imported raw materials. (iii) Export price subsidies for certain targeted

[12] Burkina Faso has obtained a temporary suspension of the WAEMU growth and stability pact and is therefore allowed to deviate from the 3%of GDP fiscal deficit rule temporarily.

sectors. As such, Impulse, Deferrals and Financing mechanisms were all used in response to the COVID-19 pandemic as outlined in Table 1.

Abasimel and Fufa (2021) report that even before the COVID-19 crisis, Ethiopia's tax revenue was relatively low at about 11-12%of GDP (confirmed in Table 2). High dependence on tax revenues from trade and profit-making state-owned enterprises with high exposure to international markets have left Ethiopia vulnerable to the pandemic. Trade tax revenue is estimated to become 39% lower than the pre-crisis budgeted income. Similarly, domestic indirect and direct taxes are expected to be about 4% and 1% lower than the pre-crisis projection, while non-tax revenue is expected to become 3% lower than expected. A conservative estimate is that revenue collection during 2020 has declined 11% due to COVID-19 (Abasimel and Fufa, 2021). However, as seen in Table 2, revenue collection as a share of GDP is 'only' expected to drop 2 percentage points. This suggests that most of the revenue drop is due to an overall activity decline.[13] The total fiscal expenses are projected to decrease by 2 percentage points (% of GDP), leading to an overall projected fiscal deficit estimate ranging between -2.8% and -5% of GDP, depending on whether data comes from the latest IMF projections, or the Ethiopian Statistics Bureau. However, even the worse estimate marks a relatively limited increase in the fiscal deficit as compared to the projections for 2020 carried out in 2019.

On top of the direct fiscal impacts of COVID-19, foreign direct investments and remittances are expected to decline 20% and 10-15%, respectively. Official development assistance (ODA) is expected to increase. Yet, the rise in ODA will only cover about 25% of the current funding gap of approximately USD 4 billion, leading to a residual funding gap of roughly 3% of GDP (Abasimel and Fufa, 2021).

The estimated COVID-19 related health spending of 4% of GDP (Table 1), together with a relatively constant budgeted expenditure share of GDP in 2019 and 2020 (Table 2) could signal that major budget reallocations are taking place. However, from Table 4, we find no direct evidence of this concern in Ethiopia. At least not concerning the social sectors, as the share of total expenditures going to both health and education is increasing from 2019 to 2020. This means that the drop in expenditure for education is a result of the overall decline in economic activity and that reallocation policies implemented are actual "favouring" the education sector.

4.3 Ghana

Ghana has followed a relatively strict, although flexible, lockdown strategy, as seen in Table 5 and the detailed information in Appendix B. Social distancing measures, temporary closure of nightlife, travel restrictions and border control have been invoked and enforced.

[13] IMF (2021) only expects half the economic impact compared to Abasimel and Fufa (2021).

Schools and universities were also closed during the initial phase of the pandemic, but restrictions have since then been gradually lifted. The 2020 average of the containment health index, given in Table 6, is just above the average of the ten countries and below the value for Denmark.

The projected economic growth in 2020 decreased from 5.6% (October 2019) to 0.9% (April 2021), as seen in Table 3. The April 2021 projection is somewhat more positive than the estimates of Amewu et al. (2020), who use a SAM multiplier model to predict economic growth. Taking into account the economic implications of the lockdown measures, other domestic policy impacts, and the disruption of global supply chains which cause falling exports, FDI, and remittances, different model scenarios suggest a contraction in the GDP growth rate of between 2.3 and 6.3 percentage points in 2020. However, Ghana is one of the few countries for which IMF's projections are the same in October 2020 and April 2021, so the most recent information gives rise to some optimism.

A commitment of approximate 0.2% of GDP for immediate response and subsequently 2.8% of GDP to face the pandemic and its social and economic consequences have been introduced (Table 1, IMF 2021). Most of the additional expenditures are allocated to the Coronavirus Alleviation Programme to strengthen the health sector, support affected targeted businesses and sectors, and finance guarantees. Existing cash transfer programs for the most vulnerable individuals and provision of temporary subsidies for the consumption of utilities have been introduced. However, the magnitude of these extra cash transfers is unclear, and the IMF (2021) and the Africa Fiscal Policy Monitor (2021) have therefore not included these measures in their summary of COVID-19 specific responses. Dzigbede and Pathak (2020) estimate that the pandemic is associated with a significant increase in poverty in Ghana and that an expansion of the existing cash transfer program would help offset the shock and lead to immediate improvements in poverty and inequality.

In terms of tax incentives and direct revenue reductions, waivers for tax penalties and certain withdrawals from pension funds were introduced, as well as contributions and donations from the private sector, for tackling the COVID-19 pandemic were made deductible. The exact estimated foregone revenues from these tax initiatives are not documented in the revised budgets. Moreover, Table 2 shows that revenue collection is projected to be 14% of GDP in 2020, which is the same as in 2019.

However, Abor and Abor (2021) document that for the first half-year of 2020, Ghana was short of revenue mobilisation by 26% of the target, mainly as a result of shortfalls in oil revenue, trade taxes and non-tax revenues. At the same time, expenditures far exceeded pre-pandemic projections (at least 5 percentage points of GDP), such that the projected fiscal deficit has increased from 6% of GDP (October 2019) to 16% (April 2021), creating a significant funding gap (Table 3).

To finance spending related to COVID-19, the government is budgeting to cut non-health-related spending by 0.3% of GDP, postponing the interest payment on non-marketable domestic bonds held by public institutions by 0.3% of GDP, drawing on the stabilisation fund, and borrowing from the Bank of Ghana. As a result, the projected government debt-to-GDP ratio is expected to increase by 14.5 percentage points (Table 3). In addition, changes have been made allowing for greater withdrawals from oil revenue savings.

4.4 Kenya

Kenya has adopted flexible containment measures, including social distancing, restrictions on gatherings, declarations of nighttime curfews, and limitations on public transportation passenger capacity. The containment measures have been adjusted over time to reflect the seriousness of the pandemic, as seen in Table 5 and Appendix B. School reopening has been done in phases and there have been some closings throughout the period. Kenya ranks at the top of the ten countries in terms of the containment and health index (63) (Table 6).

According to IMF (2021) and the African Fiscal Policy Monitor (2021), 0.4% - 0.6% of GDP was initially earmarked for COVID-19 related expenditures in the health sector and for cash transfer and food relief programmes in addition to targeted business support (Table 1). An additional economic stimulus package of 0.5% of GDP was introduced, focusing, for instance, on youth employment, provision of credit guarantees and increased funding for direct cash transfers. Moreover, full income tax relief was given for persons in the lower-income deciles; the top pay-as-you-earn (PAYE) rate was reduced from 30% to 25%, the base corporate income tax rate was reduced from 30% to 25%, the turnover tax rate on small businesses was reduced from 3% to 1% and the standard VAT rate was reduced from 16% to 14%.[14] Thus, Kenya has used a fiscal policy strategy mixing both Impulse, Deferrals and Financing.

Nechifor et al. (2021) estimate the impact of these government initiatives based on a SAM multiplier model. In the projection, government spending is assumed to follow the announcements in the Economic Stimulus Plan and the COVID Spending Plan. Foreign loans and grants are also expected to partially cover the deficit resulting from increased government spending and reductions in revenues. Finally, it is assumed that the remaining public deficit can be funded through internal budget reallocations (with no or limited short-term impact) and domestic borrowing. The simulations show that the first lockdown reduced GDP by 5.6% relative to a non-pandemic scenario. This is broadly consistent with IMF projections of a 6 percentage point reduction in economic growth projections reported in Table 3. Simulations of the second lockdown at the end of 2020 show a further substantial impact,

[14] The reductions in the top PAYE rate, the corporate income tax rate and VAT were reversed effective January 1, 2021. https://www.reuters.com/article/health-coronavirus-kenya-economy/kenyan-parliament-halts-COVID-19-related-tax-relief-idUKL8N2J12LX

with GDP contracting by 7.9% and consumer demand dropping by 8.4% relative to the non-COVID-19 scenario.

Government initiatives lead to a short-term recovery as tax rate reductions, cash transfers, and increases in public spending (especially for health) raise real income and serve as a boost to domestic demand and a partial recovery of the economy. The fiscal expansion is estimated to increase budget deficits by approximately 1.8 percentage points (from -6.6% to -8.4% of GDP, Table 3), driven by a combined decline in tax revenues and increase in expenditures (Table 2). Moreover, a concerning feature of the fiscal policy response is the significant decline in education spending as a per cent of GDP (Table 4). We, therefore, find that COVID-19 has led to a significant and concerning reallocation of resources from education towards health (and other priorities) in Kenya.

4.5 Mali

Mali initially used several containment measures, including the closure of borders, evening/night curfews, and suspension and restrictions of certain public gatherings. Work and store opening hours were shortened where possible, and schools were closed down. Later on, the evening/night curfew was lifted, and regular working hours resumed. Yet schools only fully reopened almost half a year after the initial shut down. During the second wave, schools and workplaces were again been closed, and a series of preventive and monitoring measures have been strengthened, including mass-testing and systematic tracing of contact persons. The containment indexes in Table 5 and Appendix B indicate that Mali is "middle-of-the-road" compared with the other countries.

Immediate response packages were announced to be around 1% of GDP and COVID-19 related health expenditures around 2.7% of total expenditures, and expenditure increases for the medical response upgrade are approximately 0.6% of GDP. Measures to support the most vulnerable households have been introduced. Targeted cash and food transfers have been set up, costs for utilities have been subsidised, and an exemption from customs duties on essential food imports has been granted. Economic support to ease liquidity constraints for firms has been implemented, including a guaranteed fund for SMEs. New support measures, at around 0.8% of GDP have been budgeted for 2021 to overcome the second wave of COVID-19. All in all, as seen from Table 1, Mali has used Impulse, Deferrals and Financing fiscal policy strategies to alleviate the impact of COVID-19.

Comparing IMF's growth projections in October 2019 and April 2021, the COVID-19 pandemic is estimated to have reduced economic growth in 2020 by 7 percentage points (Table 3). Moreover, fiscal deficits (% of GDP) are expected to be 2.5 percentage points larger (Table 3), driven mainly by a decline in revenues (Table 2). In terms of reallocation, there is an indication of a small reallocation of resources from education towards health, but not in the order of magnitude compared to Kenya (Table 4).

4.6 Niger

Niger initially imposed limited containment measures such as a ban on large gatherings, location-specific night curfews, shortened work hours and closure of borders. After a few months, most of these restrictions were lifted (Table 5). Only land borders remained closed. However, many containment measures reappeared during the second wave of COVID-19 as bars, nightclubs and entertainment venues were closed. From a comparative perspective, Niger introduced and enforced very few containment measures, reflected in low scores of the containment and health index (Table 6).

Early after the first outbreak, 1.3% of GDP was reallocated to additional health spending, security and social assistance (Table 1). Niger has already secured emergency financing and relief from its debt service to the IMF (IMF 2021). Implementation of a very comprehensive crisis response plan is reported to cost 18.4% of GDP. However, this amount is accumulating both recurrent expenditures and the additional expenditures due to COVID-19. Part of the plan includes health system support, direct food distribution, subsidies for utility payments, temporary tax relief for specific sectors, and credit support to the private sector in the form of loan guarantees. Table 1 shows that Niger appears to have relied more on Impulse and Financing tools than Deferrals.

In April 2021, IMF projects that Niger will have economic growth of 1.2% in 2020, down from an initial growth projection of 6% in October 2019. The fiscal budget deficit is expected to be 2.8 percentage points more than projected, while the debt burden is not projected to worsen due to COVID-19 (Table 3). Interestingly, when focusing on social sector expenditures before 2020 and in 2020, both health and education received a lower share of the total budget (Table 4). Reallocation is therefore taking place, not between social sectors, but to other budget lines. This, together with the overall reduction in total expenditures, carries concerns for the future both in terms of health and education.

4.7 Somalia

Somalia imposed restrictions on large gatherings, evening curfews, school closings, and border suspensions relatively quickly (Table5). Due to the weak health infrastructure and largely vulnerable population, it was quickly realised that a Country Preparedness and Response Plan (CPRP) needed to be developed. It is, however, apparent that containment policies have been less restrictive than in many of the other priority countries, as seen from the containment and health index in Table 6.

According to the Africa Fiscal Policy Monitor (2021), Somalia is among the countries in Africa to introduce the least fiscal instruments in response to the COVID-19 pandemic (Table 1). The immediate fiscal policy response was to introduce a three-month tax holiday on selected basic commodities and reducethe consumption tax on additional basic goods by 50%. Impact restrictions were also lifted to alleviate food security concerns. According to IMF (2021), budget revisions reflect the need for substantial donor support and budget reallocations. However, due to a lack of verified data, we are unable to confirm this.

World Bank (June 2020) provides the latest comprehensive COVID-19 economic update for Somalia. Growth projections have declined by 5.7 percentage points, and fiscal deficits are expected to be -2.4% of GDP compared to a small fiscal surplus pre-COVID-19 (Table 3). It should also be noted that external debt as a share of GDP is expected to increase substantially compared to the pre-COVID-19 estimates.

4.8 South Africa

South Africa introduced very strict containment policies from the outset of the COVID-19 pandemic, including social distancing, travel bans, school closures, screening visits, and introduction of trace contact instruments (Tables 5, 6 and Appendix B). Measured by the containment and health index, South Africa is the country with the most widespread containment policies in the group.

According to the Africa Fiscal Policy Monitor (Table 1), several fiscal support measures were introduced, and the stimulus packages are estimated to be around 10% of GDP.Other estimates show that additional and reprioritised spending targeted at both firms and individuals amounts to approximately 6.5% of GDP (Bhorat et al., 2021). The government's COVID-19 Support Package allocated 4% of the total intervention to health support services and an additional 4% to assist municipalities with the provision of essential services. Most of the relief intervention (82%) has been spent on income, wage subsidies, job protection measures, corporate tax relief and loan facilities. Worker assistance has been provided through the Unemployment Insurance Fund (UIF) and programs designed to cope with the crisis, and a temporary grant covering unemployed workers that are not eligible for UIF benefits has been introduced. Low-income workers received a temporary tax subsidy, and vulnerable groups received higher social grants. Increased food assistance distribution has also been financed. Moreover, funds have been allocated to assist smaller firms and small-scale farmers, as well as a covid-19 loan guarantee scheme, which has been introduced to alleviate credit constraints for the most vulnerable businesses. Revenue authorities have introduced tax credits and rebates and have allowed firms to defer certain tax liabilities.

Overall, a wide range of initiatives (Impulse, Deferrals and Financing) has resulted in a projected change in the budget deficit of 5.5 percentage points and a projected decline in GDP growth of 8.1 percentage points.[15] Fiscal deficit changes from initial estimates reflect a relatively constant revenue collection (as % of GDP) and a relatively large increase in expenditures (Table 2). Government and external debt are expected to increase 11 to 14 percentage points in 2020 compared to the pre-COVID-19 scenario (Table 3). Table 4 shows that there are no severe budget reallocation concerns in South Africa.

However, there has been a reallocation within the health expenditure budget. Specifically, South Africa has the highest HIV burden in the world, yet when COVID-19 hit the country,

[15] From -6.7% of GDP projected in October 2019 to -12.2% of GDP projected in April 2021, see Table 3.

the HIV outreach was put on hold, and approximately 28,000 HIV healthcare workers were deployed for COVID-19 testing (Karim et al., 2020). Moreover, along with healthcare staff and funding, many countries have reported that they have used GeneXpert machines for COVID-19 testing rather than testing for tuberculosis. Hence, the rate of TB diagnosis has fallen drastically. In South Africa, the monthly drop in new TB cases was as high as 50% between March and June (WHO 2020b).

Several studies have looked at the impact of COVID-19 on the South African Economy. As explained in Section 3, Arndt et al. (2020a,b) estimate the cost of the lockdown using a SAM multiplier framework, distinguishing between different lockdown scenarios. As the pandemic is shown to have a vast impact on South Africa's export, the country is severely impacted by COVID-19. A 'quick' recovery scenario finds a GDP decline of about 5% by the end of 2020 and a reduction in tax revenue collection of 27%. The more persistent effects of COVID-19 projects a decline in GDP growth of 16%, somewhat above recent IMF (2021) projections. Bhorat et al. (2021) analyse the attempts made to cushion the negative economic impacts of the pandemic on vulnerable groups and show that the cash transfer package reached a large group of otherwise uncovered, vulnerable individuals, but that this extended coverage comes at a cost to the poorest households, thereby contributing to increasing income inequality. However, the analysis also finds that the poorest households in South Africa were not the most affected by the pandemic.

4.9 Tanzania

In Tanzania, the authorities initially introduced a series of containment policies, including a ban on larger gatherings, suspension of schools, cancellation of international travel, and location-specific restrictions related to face masks. However, there has been no workplace closing and, since July 2020, almost all restrictions have been lifted. Statistics related to COVID-19 have not been collected, and there are no plans to accept COVID-19 vaccines (The Lancet, 2021).[16] Tables 5, 6 and Appendix B confirm that Tanzania is among the countries with the lowest scores in all containment and health indicators. Table 6 illustrates how Tanzania is by far the country with the least restrictive policies.

Furthermore, Table 1 shows that the direct immediate COVID-19 health spending only amounted to 0.1% of total government expenditures and that the fiscal policy stimulus of the order of 0.7% of GDP was spent specifically to deal with the effects of COVID-19. According to the IMF (2021), the additional expenses have been financed mainly through grants and contingency reserves, such that no significant reallocation within the fiscal budget is expected for 2020. Unfortunately, the lack of data consistency in the detailed budgets for Tanzania makes us unable to verify the statement.

[16] https://www.thelancet.com/action/showPdf?pii=S0140-6736%2821%2900362-7

According to the World Bank (2021a), the pandemic undermined domestic revenue mobilisation efforts. From April 2020, onwards tax revenue missed its target by approximately 11% because of diminished consumption, imports, and economic activity. However, Table 2 shows that both revenues and expenditures as a share of GDP have been relatively constant. Growth projections are down from an estimate of 5.7% in October 2010 to 1.0% in April 2021. However, the fiscal deficit is now only expected to be -1.0% of GDP compared to a pre-COVID-19 estimate of -3.5%. Moreover, there are only minor changes in the debt-to-GDP ratios (Table 3).

Tanzania's strategy to cope with COVID-19 is clearly very different from the other countries considered. It will therefore be interesting to follow the post-COVID-19 path of Tanzania in comparison with the other Danish priority countries that enforce much stricter lockdown policies as well as much more expansionary fiscal policies.

4.10 Uganda

Uganda has followed one of the stricter lockdown policies among the selected countries and enforced most containment measures at high levels, which is reflected in the containment and health index that is among the highest together with Kenya and South Africa (Tables 5 and 6 and Appendix B). However, as seen from the tables (and according to IMF 2021), Uganda has gradually started to relax the lockdown although most restrictions remain more stringent than those experienced in many OECD countries, including Denmark. It should also be noted that due to the recent Ebola threat in Uganda, the country already had a strong system in place when COVID-19 hit (WHO 2020a). Ebola treatment units in the country were quickly shifted to quarantine centres for people with COVID-19. This, however, increased the risk of overlooking a new Ebola epidemic. In the city of Butembo in DRC, just 60 kilometres from the Ugandan border, a new outbreak of Ebola was detected on February 7, 2021 (MSF 2021).

Uganda has increased spending for selected sectors and vulnerable groups (0.3% of GDP) and approved a supplementary budget increase of around 0.8% of GDP. Moreover, different supportive tax measures have been taken, which is expected to lead to a revenue shortfall of at least 0.2% of GDP. These include allowing delays in CIT and deferrals of PAYE payments to specific sectors and waiving interest on tax arrears. Additional fiscal support has been generated by the provision of extra resources to the Uganda Development Bank that has targeted credit delivery for SMEs and boosted funding for agriculture. Finally, budget reallocations towards additional funding to the health sector have been allowed and direct food delivery programs to the vulnerable have been supported. According to IMF (2021) and the Africa Fiscal Policy Monitor (2021), the expenditures on these stimulus packages are somewhere between 1.0% and 1.5% of GDP (Table 1), and Impulse, Deferrals and Financing instruments have all been used.

GDP growth projections are down 8.3 percentage points for 2020 when comparing pre- and post COVID-19 estimates (Table 3). However, surprisingly, fiscal budget deficits are now ex-

pected to be only 7.6% of GDP as compared to 8.6% of GDP pre-COVID-19 and debt is expected to be lower than the pre-COVID-19 level as well. Moreover, both revenues and expenditures (as shares of GDP) are expected to be at 2019 levels. However, looking at Table 4, we observe a large reduction (as a share of total expenditures) in the education budget. Considering the analysis by the World Bank (2020c) of the current needs of the education sector in Uganda, this is ill-fated. Under a business-as-usual scenario, considerable funding is needed to just maintain current education quality indicators. Moreover, the analysis shows that the combined primary and secondary budgets will need to almost double over the next five years to keep pace with the growing school-age population.

4.11 Summary of findings

All ten countries have made broad use of both containment measures and fiscal policy instruments related to the *Impulse*, *Deferrals*, *Financing* and *Reallocation* mechanisms. Yet, there are significant differences in the timing and persistence of containment policies, the use of particular fiscal instruments, and the degree to which the countries have reallocated the budget shares.

Table 7 provides a summary of our findings, emphasising the relative rankings for each measure rather than the measures. In columns 1 to 3, we assess the economic outcomes in terms of economic growth, debt and poverty increase. We categorise the impacts broadly into better than average, average and worse than average, as indicated in the table by 'mild' effects, 'average' effects and 'bad' effects. Specifically, in column 1 and 2, we compare the estimated impact on economic growth and government debt. In column 3, we categorise the countries based on the consequences for poverty as measured by Sumner et al. (2020). In columns 4 to 7, we assess the policies in the same 'qualitative' way. In column 4, we classify the containment policies, and in column 5, the broader use of fiscal policy instruments. Finally, the fiscal deficits and budget reallocations are classified in columns 6 and 7.

Table 7: Summary of Findings

	Estimated growth impact	Estimated debt impact	Estimated poverty impact	Containment, Response, Stringency	Impulse, Deferrals, Financing	Projected fiscal deficit consequence	Social sector budget reallocation
Burkina Faso	BAD	AVG	BAD	AVG	AVG	AVG	NA
Ethiopia	MILD	MILD	AVG	HIGH	ALL	MILD	NO
Ghana	AVG	BAD	MILD	AVG	AVG	BAD	NA
Kenya	AVG	AVG	AVG	HIGH	ALL	AVG	YES
Mali	BAD	AVG	BAD	AVG	ALL	AVG	AVG
Niger	AVG	MILD	AVG	LOW	AVG	MILD	YES
Somalia	AVG	BAD	NA	LOW	FEW	NA	NA
South Africa	BAD	BAD	AVG	HIGH	ALL	BAD	NO
Tanzania	MILD	MILD	AVG	LOW	AVG	MILD	NA
Uganda	AVG	MILD	MILD	HIGH	ALL	MILD	YES

Notes: Estimated growth and debt are based on average projections from IMF (2021) and World Bank (2021) Global Economic Prospects https://www.worldbank.org/en/publication/global-economic-prospects. Estimates for Somalia are obtained from the June 2020 World Bank Somalia Economic Update. Poverty estimates are based on PovCalNet data (Sumner et al., 2020). Containment measures are from the Blavatnik (2021) Government Response Tracker.

Among the ten countries, Ethiopia and Uganda have performed above average while Somalia, to the extent we have data, has performed below average. It is noteworthy how the stringency of containment policies is linked to fiscal policy responses in the sense that more strict policies are accompanied by more use of impulses, deferral, and financing instruments. This is probably the reason why we do not find a link between the stringency of containment policies and the estimated growth impact. It is further noteworthy that the three countries with troubling debt impacts are Somalia and the two middle-income countries, Ghana and South Africa. The latter two countries are in a poor debt position largely because their policies have led to large budget deficits. Our data do not allow us to test if the deficit position and increase in the debt-to-GDP ratios have been by necessity or choice in the two countries. However, Ghana and South Africa are the countries with the best access to the international capital markets. This indicates that the size of the fiscal deficits in the ten countries is influenced by access to credit or other forms of external funding. Finally, Kenya, Niger and Uganda have all made reallocations of the budgets resulting in decreased funds for education.

5 Conclusion/Perspectives

It is worth reiterating that the COVID-19 pandemic took the world by surprise. The spread of the disease from China was first to the advanced economies (mainly Europe and the USA) and subsequently to emerging and developing economies. World leaders never openly discussed or agreed on common responses to the disease or even on a common understanding of the seriousness of the disease. Therefore, as the epidemic spread across the world to become a pandemic in the spring of 2020, we saw large differences in containment strategies, infection rates and mortality rates. Given these circumstances, it should come as no surprise that early projections of the economic effects of the pandemic are off the mark.

During the first pandemic year, 2020, governments introduced different containment policies. As these policies were all variations of social distancing requirements, they affected the economic activity. In order to mitigate the negative effects of the containment policies, the governments in almost all countries have reignited fiscal policy interventions.

There were and are ongoing discussions about the optimal containment strategy, both while countries were locked down and while governments gradually allowed for social interactions following declines in infection rates. All arguments in the discussions have their roots in the balance between gains from saving lives by reducing infections and costs from reduced economic activity and thereby welfare, and possibly lives.

When assessing these benefits and costs, a first step is to quantify the effect of the different containment restrictions and the fiscal policies. This has turned out to be challenging. The COVID-19 pandemic and, in particular, the policy responses are not directly comparable to events or actions in the past. Nevertheless, it is clear that large-scale pandemics are both supply and demand shocks to the economy. The short-run supply shock is caused by a reduction in the labour force and working hours while the disease is infecting workers. This

disease-effect may be replaced by an equal, or possibly larger, containment policy effect. The demand shock arises from amplified uncertainty about future income, which increases precautionary savings. An analysis of recent pandemics finds that health shocks often lead to behavioural changes whereby the shocks are followed by decades of high precautionary savings and reduced investment preparedness. Government intervention, alleviating both supply- and demand-side effects, is therefore warranted.

The IMF's most recent assessment of the total fiscal policy impact is an average fiscal deficit of 13.3% of GDP in advanced economies, while it 'only' 5.7% of GDP in low-income countries. An important question is whether this is too much or too little. Unfortunately, our review of the best model-based assessments of the impact of such expansionary fiscal policies leads us to conclude that most of the model-based assessments can only serve as imprecise guiding principles for policymakers. The economics profession disagrees markedly when it comes to the actual size of the so-called fiscal multiplier. The disagreements stem from unquantifiable, technical assumptions that can often be traced back to political or ideological positions.

As a result, we suggest assessing the various fiscal policy interventions using a more non-technical, pragmatic approach. We, therefore, make loose, model-free comparisons of the policy interventions across the ten Danida priority countries in Sub-Saharan Africa. We take, in contrast, a due note of the containment policies as they affect labour supply and hence production. We follow the IMF in assessing the use of impulse, deferral, and financing interventions and take note of budget reallocations across sectors within the 2020 budget. In the assessment of the policy choices, we record the extent to which each country acted by invoking containment policies, how they made use of the different policy instruments and the extent to which health-related spending was countered by reallocations at the expense of education, as this may transform the COVID-19 crisis into an event with long-run consequences in terms of education of the young population.

We find that nine out of ten Danida priority countries made broad use of both containment measures and policy instruments. However, there are marked differences in the timing and persistence of the containment policies and in the use of particular fiscal instruments. Moreover, there are noticeable differences in the degree to which the countries have reallocated the budget shares.

An interesting result is that the stringency of containment policies is clearly linked to the fiscal policy responses in the sense that more strict policies are accompanied by more use of impulse, deferral, and financing instruments. This may explain why we do not find a link between the stringency of containment policies and the estimated growth impact. It is also a noteworthy result that the three countries with troubling debt impacts are Somalia and the two middle-income countries, Ghana and South Africa. The latter two countries are in a poor debt position, largely because their policies have led to large budget deficits. Our analysis does not allow us to gauge if the deficit position and increase in the debt-to-GDP ratios are by necessity or choice in the two countries. However, Ghana and South Africa are the

countries with the best access to the international capital markets. This indicates that the size of the fiscal deficits in the ten countries is influenced by access to credit or other forms of external funding. Finally, we note that Kenya, Niger and Uganda all seem to have made critical reallocations of the budgets resulting in sharply decreased funds for education. We find this to be a cause for concern.

In our overall comparison, we find that Ethiopia and Uganda have performed above average. However, the policies in Uganda illustrate that even our simple and pragmatic approach in which we examine a few key policy variables may be missing important details. As noted, we record a significant reallocation from spending on education to COVID-19 related health expenditures. At the same time, we note how Uganda has maintained a rather strict containment policy. An important indicator in the containment policy index is school closings. Uganda scores high because all schools were closed from April to September 2020, while some children were allowed to go to school from October onwards. Thus, many children in Uganda have been sent home from school for almost one year. This has allowed for the reallocation of funds, but in our view, the price paid by the children is excessive, and the policy choice may carry high future costs.

A related problem is that COVID-19 is far from the only health concern troubling the ten priority countries. HIV, tuberculosis (TB), malaria, measles and in some countries also Ebola (Uganda) and Polio (Burkina Faso, Ethiopia, Ghana, Mali and Niger) have resurfaced. Receiving treatment for HIV, TB, and malaria has become extremely difficult due to social distance measures and because essential health services have been reallocated to the COVID-19 response.

The education and non-COVID-19 health challenges illustrate clearly that our simple approach is not sufficient for assessing the situation in the countries. It must be part of a broader information system. We have explained that projections of economic aggregates, such as GDP, are uncertain. We would therefore suggest complementing our data analysis with information from a dashboard approach, such as the World Bank's high-frequency monitoring dashboard (LINK). The World Bank's dashboard is based on data from high-frequency phone interviews conducted in over 40 countries. The surveys are centred on households and their well-being and behavioural responses to the crisis. Hence, the surveys contain relevant information when assessing the impact of the COVID-19 related policies, particularly associated with the social sectors.

In addition to household information, data is also needed for the business sector. Some may be gathered by high-frequency business surveys. Yet just as important are timely key indicators based on trade customs data and industrial production indices that can be used to provide simple measures of the level of economic activity at monthly or quarterly frequencies. Establishing real-time data collection solutions and preparing a framework for analysing such high-frequency data in the context of major shocks should therefore become a priority as part of the toolbox guiding targeted policy responses to future crises.

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Appendix A: Monetary Police Response

Appendix Table A1: Monetary Policy Response Overview

	Policy rate reduction	Capital req. reduction	Liquidity Support	Loan deferrals Refinancing	Exchange rate measures	FinTech support
Burkina Faso			YES			YES
Ethiopia						
Ghana	YES	YES				YES
Kenya			YES			
Mali			YES			YES
Niger			YES			YES
Somalia			YES			
South Africa		YES	YES			
Tanzania	YES	YES		YES		YES
Uganda	YES		YES	YES		YES

Source: Africa Fiscal Policy Monitor - https://COVID19africawatch.org/africa-policy-monitor/#fiscal-policy

Appendix B: COVID-19 Containment Measures by Country

Appendix Table B1: Closure of Public Transport

	Mar 20	Apr 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	AVG
Burkina Faso	0.58	2.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
Ethiopia	0.13	2.00	2.00	2.00	2.00	2.00	2.00	1.84	1.00	1.00	0.29	1.48
Ghana	0.13	1.63	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
Kenya	0.39	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.02
Mali	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Niger	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Somalia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
South Africa	0.19	1.00	1.00	1.00	1.00	1.00	0.63	0.00	0.47	1.00	1.00	0.75
Tanzania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uganda	0.45	2.00	2.00	2.00	1.84	1.00	0.83	0.42	0.27	0.00	0.00	0.98
Denmark	0.71	1.00	1.00	1.00	1.00	1.00	1.00	0.29	0.00	0.00	0.00	0.64

Source: CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker
0 - no measures; 1 - recommend closing (or significantly reduce volume/route/means of transport available): 2 - require closing (or prohibit most citizens from using it).

Appendix Table B2: Stay at home requirements

	Mar 20	Apr 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	AVG
Burkina Faso	0.71	2.00	2.00	1.00	1.00	1.00	0.30	0.00	0.00	0.00	0.00	0.73
Ethiopia	0.00	0.77	1.00	1.00	1.00	1.00	1.00	0.84	0.00	0.00	0.00	0.60
Ghana	0.13	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Kenya	0.32	2.00	3.00	2.73	2.00	2.00	1.00	1.39	2.00	2.00	2.00	1.86
Mali	0.23	1.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.17
Niger	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.03
Somalia	0.00	0.67	1.00	1.00	0.00	0.00	1.33	1.26	1.00	1.00	0.61	0.72
South Africa	0.39	2.00	2.00	1.00	1.65	2.00	2.00	2.00	2.03	1.45	1.65	1.65
Tanzania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uganda	0.13	2.00	1.55	1.63	2.00	2.00	2.00	2.00	2.00	2.00	1.35	1.70
Denmark	0.94	1.00	1.00	1.00	1.00	1.00	1.00	0.65	0.60	1.00	1.00	0.93

Source: CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker
0 - no measures; 1 - recommend not leaving house; 2 - require not leaving house with exceptions for daily exercise, grocery shopping, and 'essential' trips; 3 - require not leaving house with minimal exceptions (e.g. allowed to leave once a week, or only one person can leave at a time, etc.).

Appendix Table B3: Restrictions on internal movement

	Mar 20	Apr 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	AVG
Burkina Faso	0.71	2.00	0.26	0.00	0.06	2.00	0.60	0.00	0.00	0.00	0.00	0.51
Ethiopia	0.39	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.85
Ghana	0.13	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Kenya	0.32	2.00	2.00	2.00	1.19	1.00	2.00	2.00	1.00	1.00	1.00	1.41
Mali	0.45	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Niger	0.26	2.00	0.77	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.31
Somalia	0.00	0.00	0.00	0.00	0.00	0.13	2.00	0.74	0.00	0.00	0.00	0.26
South Africa	0.74	2.00	2.00	2.00	2.00	1.55	0.63	0.00	0.00	0.32	0.61	1.08
Tanzania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uganda	0.52	2.00	2.00	1.73	2.00	2.00	2.00	1.16	0.47	0.84	0.42	1.38
Denmark	0.61	1.00	0.68	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.24

Source: CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker
0 - no measures; 1 - recommend not to travel between regions/cities; 2 - internal movement restrictions in place.

Appendix Table B4: International travel control

	Mar 20	Apr 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	AVG
Burkina Faso	1.55	4.00	4.00	4.00	4.00	2.45	2.00	1.42	1.00	1.00	1.65	2.46
Ethiopia	1.65	3.00	3.00	3.00	3.00	3.00	2.30	2.00	2.00	2.00	1.97	2.45
Ghana	2.39	4.00	4.00	4.00	4.00	3.90	1.00	1.00	1.00	1.00	1.00	2.48
Kenya	2.55	2.00	4.00	4.00	3.94	2.00	2.00	1.97	1.00	1.00	0.97	2.31
Mali	0.77	3.03	4.00	4.00	3.87	2.00	2.00	2.00	2.00	1.26	0.97	2.35
Niger	1.81	4.00	4.00	4.00	4.00	1.58	0.13	1.35	2.00	2.00	1.94	2.44
Somalia	2.32	4.00	4.00	4.00	4.00	1.19	2.23	1.45	1.00	1.00	1.00	2.38
South Africa	2.19	4.00	4.00	4.00	4.00	4.00	3.97	2.58	1.30	1.00	2.26	3.03
Tanzania	2.16	3.67	2.06	0.00	0.42	1.19	1.50	1.00	1.00	1.00	1.03	1.37
Uganda	2.35	3.00	3.00	3.33	2.52	2.00	1.60	1.00	1.00	1.00	1.65	2.04
Denmark	3.26	4.00	3.74	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.77	3.25

Source: CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker
0 - no restrictions; 1 - screening arrivals; 2 - quarantine arrivals from some or all regions; 3 - ban arrivals from some regions; 4 - ban on all regions or total border closure.

Appendix Table B5: Government Response Index

	Mar 20	Apr 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	AVG
Burkina Faso	28.76	60.11	53.26	41.11	41.33	44.07	40.83	35.14	30.00	26.67	27.74	39.00
Ethiopia	19.73	58.59	62.22	62.22	64.91	65.56	64.45	54.57	45.00	45.00	41.34	53.05
Ghana	25.61	64.69	58.30	58.44	51.67	51.67	46.67	46.45	43.33	43.33	42.61	48.43
Kenya	32.58	2.00	76.24	75.93	72.11	68.24	69.44	56.31	55.00	56.72	54.25	56.26
Mali	12.58	53.78	55.41	52.29	52.11	48.89	47.63	43.65	36.67	44.73	46.54	44.94
Niger	17.22	45.33	40.34	29.44	29.44	28.15	26.39	17.81	25.09	27.71	35.53	29.32
Somalia	14.21	36.85	37.63	30.74	21.54	19.93	30.19	33.87	33.63	33.89	22.67	28.65
South Africa	31.06	66.67	72.87	74.96	75.88	75.06	65.56	52.01	52.20	55.04	67.74	62.64
Tanzania	14.45	33.64	33.09	25.13	22.52	20.15	16.09	13.77	15.28	11.41	8.61	19.47
Uganda	26.70	68.33	70.41	68.68	65.14	66.01	66.44	60.00	43.93	38.02	38.25	55.63
Denmark	40.13	56.41	59.25	56.11	56.06	54.43	54.91	49.77	53.59	57.21	67.89	55.07

Source: CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford. https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker.

Appendix Table B6: Stringency Index

	Mar 20	Apr 20	May 20	June 20	July 20	Aug 20	Sept 20	Oct 20	Nov 20	Dec 20	Jan 21	AVG
Burkina Faso	35.99	84.26	65.62	45.37	45.73	50.30	39.72	29.09	22.22	13.89	15.68	40.72
Ethiopia	25.78	77.75	80.56	80.56	80.56	80.56	78.71	64.04	53.52	51.85	45.76	65.42
Ghana	31.09	76.70	60.96	55.37	52.78	52.78	44.44	44.08	38.89	38.89	37.70	48.52
Kenya	45.76	2.00	88.89	87.66	81.30	71.45	71.30	67.44	62.96	62.96	58.01	63.61
Mali	20.97	72.22	60.24	52.90	52.60	47.22	45.12	39.22	37.96	46.15	47.01	47.42
Niger	26.26	61.11	44.08	25.93	25.93	19.47	15.27	16.37	23.76	28.13	31.48	28.89
Somalia	22.85	57.72	59.02	47.53	31.48	21.36	38.27	41.67	37.53	37.96	19.27	37.70
South Africa	39.34	87.96	84.26	77.72	79.24	77.87	62.03	39.45	39.79	44.51	65.05	63.38
Tanzania	21.21	48.98	45.43	32.16	29.78	29.42	20.93	15.08	17.59	11.14	6.48	25.29
Uganda	35.96	93.52	87.66	83.00	81.75	80.14	79.54	67.62	51.51	49.94	49.04	69.06
Denmark	52.63	70.25	63.95	57.41	55.26	50.93	49.85	43.25	46.26	50.18	68.13	55.28

Source: CORONAVIRUS GOVERNMENT RESPONSE TRACKER, Blavatnik School, University of Oxford. https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker.