

COVID-19 in Ghana: Consequences for Poverty, and Fiscal Implications

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Abstract

This paper estimates the poverty consequences of the COVID-19 pandemic and its fiscal implications in Ghana using a micro-simulation analytical approach applied to household level data collected in 2016/2017 by the Ghana Statistical Service. The results show that the poverty consequences are massive as poverty increased from a base of 20.5% to 34.0% and drove over 4 million pre-COVID non-poor into poverty. The poverty consequences are triggered by income losses of up to US\$ 330 million and equalling 5.4% of monthly GDP. The pandemic has also worsened inequality as inequality rose from a base of 42.1% to 47.5%. The fiscal cost of a universal cash transfer potent enough to restore poverty to pre-COVID level is a monthly expenditure of US\$ 186 million, which represents 3.1% of monthly GDP. COVID-induced interventions on water and electricity rebates for three months are less effective in reducing poverty. Disaggregated findings based on locality show varying depths of impact. The policy implications of these findings are important for appropriate interventions to tackle the consequences of the pandemic.

1. Introduction

Economies, whether developed or developing, have always been susceptible to shocks of various kinds and magnitudes. The literature is littered with histories of very renowned economic shocks including the Great Depression of the 1930s, the OPEC oil price shock of 1973 and more recently the 2007-2008 global financial crisis. Between 1870 and before December 2019, the world economy received 13 recessions imposed by different shocks. In 2019, another shock of a different strain rocked the world. What started as a health shock imposed by the COVID-19 pandemic crossed boundaries to stimulate economic and social shocks, ravishing economies with severe consequences. A key consequence is that the 14th recession of the global economy is upon us.

Countries are reacting to the pandemic using various policy measures and strategies. The most applied policy measure to contain the widespread pandemic is partial or full country lockdowns, coupled with travel bans, border closures, social distancing, mandatory wearing of mask and quarantine measures. A consequence of lockdowns and other measures is the restrictions placed on the movements of people, and this in itself kickstarts labour market and economic shocks. ILO (2020) reports that the pandemic and lockdowns have significantly impacted labour market outcomes such as reducing the quantity of jobs and the quality of work.

The macroeconomic impact of the COVID-19 pandemic and the pandemic-induced lockdowns are emerging at a fast pace as the spread of the pandemic and has opened an empirical niche in the development economics literature. Poverty, how to overcome it and its attendant consequences have been the central themes of development economics research. With the advent of the pandemic and the measures of lockdowns, it is imperative to focus research to assess the impact of the pandemic on poverty and inequality. The rationale is that containment measures of lockdowns and related measures imply that most people will lose income through job losses, reduction in hours of work, and reduction in production and productivity. The impact of the pandemic and lockdowns on poverty is most likely to hit hard on developing economies because they generally have higher poverty ratios, weak healthcare and support systems, and heavy reliance on global trade (Sumner, Hoy and Ortiz-Juarez, 2020). In this regard, Africa becomes an important experimental setting to evaluate the impact of the pandemic-induced lockdowns and related measures on poverty and inequality.

Ghana's record at poverty reduction has been relatively remarkable over the years. The country achieved the Millennium Development Goal (MDG) of halving extreme poverty by 2015 in 2006, reducing poverty to 18.2% from 36.5% in 1991 with nine (9) years of the deadline to spare. With this much progress made, COVID-19 and the lockdown the country imposed have the capacity to erase the gains made so far. A 21-day partial lockdown was adopted in the two biggest cities of Accra and Kumasi. We ask: what are the distributional consequences for poverty and the fiscal implications of the COVID-19-induced lockdown and related measures in Ghana?

This study aims to use country-level household data to estimate:

- (i) The loss of income caused by COVID-19 across the income distribution;
- (ii) The increase in poverty brought about by the income losses; and
- (iii) The government expenditure that would be necessary to offset that increase in poverty.

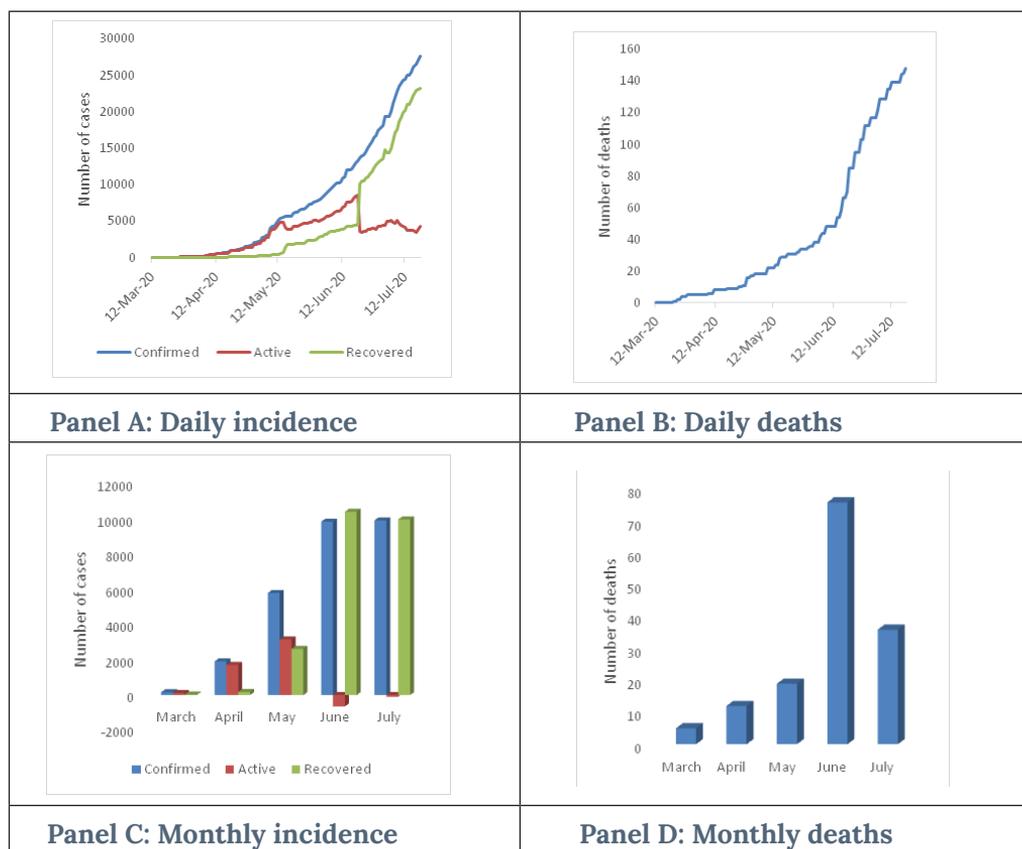
In response to the lockdown, the government provided water and electricity rebates to encourage Ghanaians to stay at home and also cushion them from the consequences. We provide further estimates of the impact and effectiveness of these measures on poverty and inequality. The motivation stems from providing evidence along these objectives to inform policy makers and stimulate discussions in the development economics literature. The evidence is key to the policy response process. The few tangential studies adopt a macro approach to analysing the epidemic-induced lockdowns and the pandemic in general (see for example Sumner et al., 2020; ILO, 2020; and International Food Policy Research Institute – IFPRI (2020)²). In such studies, the impact is measured using declining Gross Domestic Product (GDP) data as the main identification strategy. The main comparative advantage of this study is the approach of estimating the impact of the pandemic on poverty at the micro-level using household-level data. Unlike the macro studies, this approach offers the advantage of disaggregating the impact based on household type (male vs female) locality of residence (rural vs urban) and industry type (e.g., agriculture, industry, services).

2. COVID-19 in Ghana: Situation and measures

Current situation

Ghana recorded its first twin cases of the novel 2019 Corona Virus on 12th March 2020. These confirmed cases were imported into the country. As at 19th July 2020, the total number of confirmed cases was 27,677, with 23,259 recoveries, 4,270 active cases and 148 deaths. The current situation of the pandemic in Ghana is presented in Figure 1.

Figure 1: COVID-19 situation in Ghana (12th March–19th July 2020)



Source: Our world in data (<https://ourworldindata.org/>) and worldometer (<https://www.worldometers.info/coronavirus/country/ghana/>)

Figure 1 (Panel A) shows that the country has yet to flatten its curve. This implies that the battle against the pandemic is far from being won and policy makers should continue to find workable ways to flatten the curve. Remarkably, however, the rate of recoveries has improved astronomically, forcing down the number of active cases. This can help reduce the strain on the healthcare system. Another worrisome trend is that the death rate is rising sharply (Panel B) and measures are needed again to clamp it. Panels C and D show that the case and death situations worsened in June while recoveries gained much.

Lockdown and measures

Immediately the first case of COVID-19 was confirmed, the Government announced a strategy to embark on contact tracing as a means of curbing its spread. Safety measures championed by the World Health Organization (WHO) were also announced for citizens to embrace. A third case on 15th March 2020 involving a university student moved the Government to suspend all academic institutions and public gatherings. The next line of action was a ban on travellers entering the country from countries that had confirmed cases in excess of 200. Safety protocols for health workers were emphasized and an online portal was developed to provide a digital update of the situation. To further strengthen the measures on international travel, the Government announced a mandatory self-quarantine of travellers into the country. Due to increasing cases, on 16th March 2020 the Government proposed legislation to empower it to enforce its directives. Therefore, the 'Imposition of Restriction Bill' was presented to parliament and finally passed into law.

Despite these measures, cases kept soaring, especially in and around Accra (the national capital) and Kumasi (the second largest city). By 27th March 2020, the total number of confirmed cases stood at 137 with 4 deaths and 2 recoveries. Following advice from health experts and other stakeholders, the Government announced an initial 14-day partial lockdown in the Greater Accra Metropolitan Area (GAMA) and the Greater Kumasi Metropolitan Area and its surrounding districts starting on Monday, 30th March 2020. Overall, the span of the restrictions was over 30 Metropolitan, Municipal and District Assemblies (26 in Greater Accra and 14 in Greater Kumasi) covering a population of 7.7 million people (25% of the population). At the end of the period, the lockdown was extended for another 7 days. Thus, in all, the lockdown was imposed for a period of three weeks and eased afterwards.

Given the fact that the pandemic and the lockdown had potential consequences, the Government announced a number of measures to ease the burden especially that of the vulnerable people. These interventions ranged from providing water rebate of up to 100%, electricity rebate of up to 100% for lifeline consumers and 50% for all other consumers and tax reductions for frontline workers. Table A1 (in the appendix) presents the interventions to cushion people against the impact of the pandemic.

3. Literature review

The COVID-19, which emanated from China in December 2019, did not take long to be declared a global health pandemic by the World Health Organization (WHO). The speed at which it swept through the world has been alarming, such that by the turn of 2020 it had reached almost every corner of the world. In general, the pandemic has three effects: health, macroeconomic and social (World Bank, 2020). From a health perspective, COVID-19 has been described as the ‘worst public health emergency in a century’ (OECD, 2020). The health consequences are dire as 606,206 lives have been lost with 14,508,892 confirmed cases as at 20th July 2020 (Johns Hopkins Coronavirus Resource Centre [<https://coronavirus.jhu.edu/map.html>]). The human costs (or the monetary quantification) of these deaths can represent a significant portion of global GDP and directly, billions have been spent as mitigation and protection measures. However, beyond these health consequences, the pandemic has cast numerous externalities on the economic and social landscapes. For example, OECD (2020) reports the pandemic has precipitated an economic crisis not seen since the Great Depression of the 1930s, while the World Bank (2020) indicates the pandemic has facilitated a global crisis like no other.

There are two basic transmission mechanisms through which the pandemic hits the economic and social sectors. First is the pandemic itself – where the fear of contracting the virus limits productivity and economic activities in general – and second, policy measures of containment, travel and business restrictions, and lockdowns. Many countries have had to resort to full or partial lockdowns to curb the spread of the virus. Only works and services that are deemed essential are allowed to operate during the period; and even that, not at full capacity. Lockdowns imposed serious consequences on people and economies. ILO (2020) provides a full assessment of the impact of the pandemic on employment dynamics. The findings show that unemployment and under-employment have skyrocketed. Unemployment has risen by 5.3, 13.0 and 24.7 million, respectively, considering low, mild and high impact scenarios. The global financial crisis increased unemployment by 22 million, implying that in a high impact scenario, the pandemic has a deeper consequence. Downward wage and working hours adjustments are worsening the under-employment. The number of hours worked has plummeted even far more than the situation in the 2008 global financial crisis (OECD, 2020). High income countries are the hardest hit with unemployment rising by between 2.9 million and 14.6 million. ILO (2020) estimates

overall loss of labour income between US\$ 860 billion and US\$ 3,440 billion in 2020. In OECD countries, unemployment has increased from around 5% to around 8% between January 2020 and May 2020 (OECD, 2020). Disproportionate effect is conspicuous – the hardest hit, unsurprisingly, are the low-paid, women and the young. For example, the shares of workers who stopped working in April 2020 among the bottom 25% and the top 25% of income earners were, respectively, 30% and 14% (OECD, 2020). It is unsurprising that amidst the pandemic, employment rates have also taken a dent. OECD (2020) estimates that under a single hit scenario (i.e., situation where the pandemic does not resurface again after flattening), employment rates in OECD countries would plummet 7%, 5%, 3% and 2%, respectively, in quarter 2 of 2020, quarter 4 of 2020, quarter 2 of 2021 and quarter 4 of 2021. However, under double hit scenarios, the rates could be worse.

The macroeconomic impacts are massive. The World Bank (2020) has indicated that the global economy is in a huge shock and marches into the deepest global recession since the Second World War. In fact, growth forecasts across all regional blocks have been revised downward. Preliminary estimates place a handle to the extent of 5.2% global GDP contraction and 4.1% dip in global real GDP in 2020. The contraction in GDP is worse than what the world has witnessed in 80 years and is the fourth deepest of 14 recessions since 1870 (World Bank, 2020). Advanced economies are contracting by 7% while emerging markets and developing economies (EMDEs) are contracting by 2.5% in 2020. Given that uncertainties abound on when the situation would be brought under full control, these estimates could be moderate. Though the pandemic is everywhere and affects every economy, there are reports of disproportionate impacts. Impacts are more likely to be dire in economies with more domestic cases, weak health systems, more susceptible to international spillovers (e.g., heavy dependence global trade, tourism, foreign remittances, etc) and more pre-existing constraints – for example, informality (World Bank, 2020). The overall consequence of the growth-reducing impact of the pandemic is a reduction in per capita incomes. The greatest reductions would occur in EMDEs (where up to 90% of these countries would contract) pulling substantial number of people into poverty (World Bank, 2020). These are basically short-run effects. However, long-run effects are also envisaged, such as low investment, erosion of the human capital of the unemployed, a retreat from global trade and supply linkages, and subsequently plummeting potential growth and labour productivity (World Bank, 2020).

The development economics literature has responded with empirical evidence of the impact of the pandemic on poverty and inequality. Notable studies are those of Sumner et al. (2020), ILO (2020) and IFPRI (2020). The results unanimously show that the pandemic has serious poverty consequences. Sumner et al. (2020) assessed the impact of COVID-19 on global headcount poverty and report that if the pandemic results in the contraction of household income/consumption by 5%, 10% and 20%, global poverty would increase by 1.1, 2.4 and 5.6 percentage points, respectively, over the 2018 poverty rate (10.1%) using the international poverty line of PPP US\$ 1.90/day. These contractions would pull 84.9, 181.6 and 419.0 million pre-COVID non-poor into

poverty. These dynamics would represent the first-time global poverty slipped since 1990. The international poverty lines of purchasing power parity (PPP) US\$ 3.2/day and PPP US\$ 5.5/day show poverty increases of 1.8, 3.7 and 7.7 percentage points, and 1.6, 3.3 and 7.0 percentage points, respectively. Sumner et al. (2020) further show that there are heterogeneous effects on various regions, where the hardest hit are Sub-Saharan Africa (SSA) and South Asia (SA). At the PPP US\$ 1.90/day poverty line, the combined new poor people living in these regions are 85.1%, 84.4% and 83.6% for the respective degrees of contradiction. However, these estimates ease as the poverty line increases.

ILO (2020) assesses the poverty impact on the working population in developing economies and shows that COVID-19 is driving between 8.8 and 35.0 million pre-COVID working non-poor into poverty in 2020, considering the international poverty line of PPP US\$ 3.2/day. Disaggregated analysis indicates that the new working poor in low income economies is between 1.2 and 5.0 million; those in lower middle-income economies between 3.7 and 14.8 million; and those in upper middle income economies between 3.6 and 14.5 million. The IFPRI country studies preliminarily report shows that COVID-19 has three consequences. First, there are significant economic costs of the pandemic in developing economies. Second, the general exemptions of food supply chains have not shielded the sector as they are heavily affected. Third, there are sharp rises in poverty as pre-COVID non-poor urban households experience the heaviest income losses. For example, the Ghana country study by Amewu et al. (2020) reveals that the economic cost is an estimated contraction of the national GDP by 30.9%, amounting to US\$ 1.49 billion within the 21-day lockdown. The food system consequence is a contraction of the agri-food system GDP by 19.5% while the poverty impact is a rise in the poverty rate by 14.2 percentage points from the base of 24.2%, moving 4.32 million non-poor into poverty.

A review of these poverty consequence studies reveals that they generally adopt macro-level approaches where country-wide macro data are used. These approaches rely on declining GDP data as the main identification strategy. For example, the IFPRI country studies and ILO (2020) study apply Computable General Equilibrium (CGE) models to macro-level data that rely on a multiplier approach to estimate the impact. Sumner et al. (2020) avoid the use of CGE models but still apply consumption shocks to macro data. Thus, there is under-exploitation of micro-simulation methods that use country household-level datasets. Meanwhile, the advantages of these micro-simulation models relying on household datasets are numerous. A notable advantage is the capacity to do more detailed and nuanced estimation of impacts at the micro-level along sub-dynamics such as gender and locality.

4. Methodology and data

Data

Ghana has a data series which is collected by the Ghana Statistical Service (GSS) using a questionnaire adapted from the World Bank's Living Standards Measurement Survey (LSMS). This data is popularly called the Ghana Living Standards Survey (GLSS). It is a multipurpose household survey that provides wealth of data in assessing the living conditions of Ghanaians. The current series is the GLSS7, which represents the seventh round. This study uses the GLSS7 since it is the latest. The GLSS7 dataset was collected over a 12-month period between October 2016 and October 2017, covering a stratified and nationally representative random sample of 14,009 households in 1,000 enumeration areas. The dataset measures and monitors living conditions, and income and expenditure patterns that form the basis for formulating evidence-based policies to address poverty. Specifically, it covers information on the demographic characteristics of households, households' income, and expenditure (on food and non-food), education, health, tourism, migration and remittances, household agricultural activities and non-farm enterprises. The GLSS datasets have emerged as the most important and richest datasets in Ghana as they present comprehensive, reliable, and up-to-date statistics and indicators to monitor and evaluate the impact of development policies and programmes on the living conditions of Ghanaians.

Analytical framework

The foundation to estimating the poverty impact of the pandemic is to estimate how much households have lost. While this is a tough call, there are reasonable approaches to achieving this. The first step is to identify the households (or individuals) and their work characteristics such as industry of work, work type (public vs private; formal vs informal; self-employed vs employee). Here, the GLSS7 dataset identifies 19 industrial classifications (ISIC two-digit industry classification) under which we can place various workers and incomes (see the classifications in first column of Table 1). The second step is to identify the sources of income and the actual amount per source of these households. These first two steps are basically data management issues and easily implementable as the GLSS7 adequately captures these data. The third step is to

determine the incomes that are at-risk. The quality of the entire process rests on this step. Here, reasonable assumptions would have to be made. We gathered and reviewed data from various sources (such as government institutions, presidential and industry briefs, press releases and news documentaries, interviews of business associations, etc) to aid in the crafting of reasonable assumptions on incomes at risk. For example, the presidential televised address to the nation that announced the lockdown clearly earmarked businesses and enterprises that could still operate under lockdown and those that were to totally shutdown. When this data is imposed on the GLSS7 dataset, we can obtain a reasonable guess of incomes at risk. The last step is then to estimate the actual incomes lost. This step would also benefit from making assumptions. The data gathering process in the preceding step was applied again to help attach probabilities to the proportions of income that are lost. The successful completion of these steps provided the necessary data to achieve the first two objectives.

The analytical approach for the third objective estimated the average amount needed to return pandemic-induced poverty to pre-pandemic status. This average amount was then extrapolated to the entire population.

Underlying assumptions

The findings of a study of this nature will be as valid as the assumptions that underpin its models. For this reason, we try as much as possible to hinge the assumptions on ‘facts’ on the ground, government and allied institutional communications, extant literature, news and media briefings and other authoritative sources. Here, we make assumptions relating to ‘safe’ incomes/sectors and ‘affected’ incomes/sectors, the degree of loss felt by affected incomes/sectors and the geographical impacts of the pandemic.

Safe vs unsafe income/industry

We assume that all public sector salaries are safe while incomes of all other sectors are subject to losses of varying degrees (ranging from partial to total losses). This assumption is based on the fact that since the onset of the pandemic to date, the Government has not reneged on its responsibility in terms of payment of wages and salaries. Indeed, what the Government has rather done is to provide financial incentives to frontline health workers and tax exemptions for all health workers. Furthermore, grounded on the safety of salaries of public sector workers, there have been calls for the Government to consider paying part of the salaries of private sector employees in a sector such as education (see Quartey, 2020). This assumption means that public sector workers, no matter the sector they are employed, are completely safe from wage and salary losses. Additionally, we assume that pension income of all kind is safe. The Ghana Pensions Regulatory Authority has even taken measures to boost pension incomes by implementing incentives released by the Ghana Revenue Authority. These incentives provide that for those who have permanently lost their

jobs or capital due to the pandemic, withdrawals from tier three provident fund and personal pension funds are exempted from income tax (KMPG, 2020).

Regarding sectors of the economy, we assume that in the short run, sectors such as real estate, public administration and defence, information and communication, health and social work activities and activities of extraterritorial organizations are safe from income losses. By law, rent payments are made in advance of up to 6 months. But the practical reality is that rents are paid in advance for at least a year. This means that most rent incomes are locked in and for that matter are safe from the shock posed by COVID-19 in the short run. This assumption is supported by the assertion by Wilson (2020) that in the real estate sector, “Occupancy may remain the same in the short to medium term...”. Public administration and defence are exclusively government administered domains and are fully covered when it comes to salary and wage payments with or without the pandemic. In fact, during the lockdown, security agencies assigned lawful duties were exempted from restrictions (Presidential Address to the Nation, 28th March 2020). Telecommunications sector workers were exempted from lockdown restrictions. The institution of online learning stay at home and working from home policies increased the demand for information and telecommunications services. According to the Ghana Statistical Service (2020), the sector recorded a year on year growth of 77% in the first quarter of 2020. Since the health sector is crucial in the fight against COVID-19, most countries including Ghana exempted the sector from lockdown restrictions (Presidential Address to the Nation, 28th March 2020). Lastly, extraterritorial organizations such as embassies are government institutions and for that matter are not expected to renege on wage and salary payments even in the advent of the pandemic.

Degree of losses suffered

We determined the extent of losses that accrued to households based on data available from Bank of Ghana, Ghana Statistical Service, Ministry of Finance, Amewu et al. (2020), among others. For instance, in estimating the losses that accrued in the accommodation and food sector, we relied on a statement made in Ghana’s Parliament by the Minister of Finance to the effect that hotel occupancy declined from 70% to below 30% during lockdown (Ministry of Finance, 2020). Similarly, according to Amewu (2020), the agriculture sector GDP dropped by 16% during the lockdown; this is what we used to estimate losses in the agriculture and fisheries sector. The full list of assumptions and the underlying basis/antecedents are presented in Table 1.

Geographical impact assumptions

The partial lockdowns were restricted to Greater Accra Metropolitan Area (GAMA) including Tema, which comprises of 26 Metropolitan and Municipal Assemblies, and Greater Kumasi Metropolitan Area (KAMA), which contains 14 Metropolitan and

Municipal Assemblies. Clearly, one will expect the impact of the pandemic to be stronger in the lockdown areas relative to other parts of the country that were not locked down. A key question here is: what is the degree of this geographical differential impact between GAMA and KAMA, and Other Urban areas and Rural Areas? We relied on Amewu et al. (2020) to deduce this differential impact. Amewu et al. (2020) found that the lockdown led to a decline in household income by 26.8% (national), rural farm income by 20.6%, and urban and non-farm income by 28.6%. This means that urban incomes declined 8.2 percentage points more than rural farm income while national incomes declined 6.2 percentage points more than rural income. Based on these, we assume that estimated losses in lockdown areas will be at least 8 percentage points higher than losses in other urban areas while losses in other urban areas will be at least 6 percentage points higher than losses in rural areas. The full range of losses and associated probabilities assumed in this study, and the bases is found in Table 1.

Table 1: Underlying assumptions and antecedents

Industry	Probability of Losing Income				Share of Income Lost			Basis /Antecedents	
	GAMA	KAMA	Other Urban	Rural	GAMA	KAMA	Other Urban		Rural
Agriculture, forestry and fishing	0.36	0.36	0.28	0.22	0.10	0.10	0.02	0.00	Amewu et al. (2020): Nationally, agriculture GDP declined by 16% during lockdown
Mining and quarrying	0.60	0.60	0.30	0.25	0.36	0.34	0.29	0.22	Presidential Address (2020): Exempted from lockdown but social distancing, travel bans and other restrictions will have minor impact. Four (4) out of 16 most important mines (36%) recorded at least a positive case
Manufacturing	0.10	0.10	0.05	0.01	0.05	0.05	0.03	0.02	BoG (2020): Total direct collected decreased by 46.5% (year-on-year) to March 2020. IFPRI (2020): Industry GDP declined by 28% during lockdown
Electricity, gas, steam and air conditioning supply	0.25	0.25	0.15	0.11	0.37	0.37	0.28	0.22	GSS (2020): Electricity grew by 4% in first quarter of 2020 but declines are expected in steam and air condition supply
Construction	0.30	0.30	0.10	0.04	0.44	0.44	0.38	0.20	Amewu et al. (2020): Nationally, industry GDP declined by 28% during lockdown. Construction grew by -7% (GSS, 2020)
Wholesale and retail; repair of motor vehicles and motorcycles	0.60	0.60	0.40	0.20	0.41	0.41	0.33	0.28	Micah and Lefang (2020): Retailer reported 50% decline in sales; 66% of Ghanaian consumers are cash strapped. IFPRI (2020): Shock to sector projected around -39%

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Table 1 Continued

Industry	Probability of Losing Income				Share of Income Lost				Basis /Antecedents
	GAMA	KAMA	Other Urban	Rural	GAMA	KAMA	Other Urban	Rural	
Transportation and storage	0.72	0.72	0.55	0.15	0.75	0.75	0.50	0.25	Amewu et al. (2020): Nationally, service sector GDP declined by 33% during lockdown. Vehicle registration declined by 26% in March 2020 (BoG, 2020). Again, transport sector was forced to reduce passenger capacity, and this resulted in reduction in passenger capacity by 25 to 33% (Ayamga, 2020)
Accommodation and food service activities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Ministry of Finance (2020). Hotel occupancy declined from 70% to below 30% during lockdown. Restaurant services restricted to pick outs
Information and communication	0.13	0.12	0.08	0.07	0.17	0.17	0.10	0.08	GSS (2020) : No negative impact since first quarter growth was 77%, year on year
Financial and insurance activities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	BoG (2020): Pension contributors declined by 38% in March 2020; 5 out of 8 banks on GSE saw a decline in stock price from January to May; hardest hit had a fall in share price by 20%
Real estate activities	0.40	0.40	0.32	0.24	0.50	0.50	0.42	0.34	No significant negative impact since rent is paid in advance
Professional, scientific and technical activities	0.20	0.20	0.15	0.10	0.30	0.30	0.25	0.15	GSS (2020): Professional, administrative and support services grew at -6.7% in first quarter of 2020 as against 6.8% the same time last year. A decline of about 198%
Administrative and support service activities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	GSS (2020): Professional, administrative and support services grew at -6.7% in first quarter of 2020 as against 6.8% the same time last year. A decline of about 198%

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Table 1 Continued

Industry	Probability of Losing Income				Share of Income Lost			Basis /Antecedents	
	GAMA	KAMA	Other Urban	Rural	GAMA	KAMA	Other Urban		Rural
Public administration and defence; compulsory social security	0.40	0.40	0.32	0.24	0.30	0.30	0.22	0.14	No significant negative impact since government continues to pay salaries and wages
Education	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Integrated Business Survey (2015). 44.1% of employees in education employed by private schools; Some laid off workers and pledged paying 50% of salaries (Quartey, 2020)
Human health and social work activities	0.70	0.70	0.60	0.50	0.80	0.80	0.75	0.60	No impact. Crucial for fighting COVID-19
Arts, entertainment and recreation	0.25	0.25	0.15	0.11	0.40	0.40	0.15	0.11	Presidential Address (2020): Almost completely shattered by lockdown and COVID 19 protocols. Ban on travels and gathering, social distancing protocols. International tourist arrival declined by 40.37% in March (BoG, 2020). "The creative practitioners and others in the larger cultural domain... have all been grounded" (UNESCO, 2020)
Other service activities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Amewu et al. (2020): A negative shock of 39% is projected
Activities of extraterritorial organizations and bodies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	No impact. Organizations continue to pay workers

5. Analysis and discussion of results

Income losses due to the pandemic

The income losses occasioned by the pandemic are staggering (see Table 2). On the average, GHS 1.8 billion (US\$ 330 million) is potentially lost per month at the national level, which translates into 5.4% of monthly GDP. The scale of these losses is wide, affecting over 8 million people or about 26% of the population. As expected, the lockdown areas are the most severely affected with 35% and 29% of people in GAMA and KAMA, respectively, losing income. The losses in GAMA alone constitute 2.2% of monthly GDP. This means that the pandemic will potentially increase urban poverty, which can be as excruciating as rural poverty.

Though in terms of share of population losing incomes Other Urban and Rural have lower shares than the lockdown areas, in terms of absolute number of people losing income majority of losers are from Rural (3.3 million people) and Urban (2.1 million people) areas. Because majority of the pre-COVID poor are found in rural areas and the fact that most of rural population live on the margin, the poverty impact of these losses could be dire. This implies that in designing compensatory policies, the rural sector should not be left out with the explanation that they were not included in the partial lockdown. The linkages the rural sector has with the urban areas in terms of transportation, production, distribution, among others, present significant channels through which the negative impacts of the pandemic can be transmitted.

Table 2: Monthly income loss due to crisis

	Income loss			No. of people in households losing income	Share of population losing income (%)
	GHS (million)	in US\$ (million)	Share of monthly GDP (%)		
National	1,797	330	5.4	8,033,573	26
GAMA	733	135	2.2	1,689,558	35
KAMA	300	55	0.9	922,997	29
Other Urban	541	99	1.6	2,100,250	24
Rural	224	41	0.7	3,320,768	11

Official estimates emerging from Ministry of Finance, Bank of Ghana and Ghana Statistical Services support the colossal income losses estimated. In the light of the pandemic induced lockdown, the Finance Ministry revised 2020 GDP growth estimates from 6.8% to 1.5%, representing a downward revision of economic growth target by a whopping 77.9%. The Bank of Ghana projects that GDP growth for 2020 may range from 2.0 to 2.5%, representing a downward revision of GDP growth of between 62.2% and 70.6%. Whether we take the more optimistic projection by the Bank of Ghana or the grimmer estimate by the Ministry of Finance, the envisaged losses are catastrophic. To put this in historical perspective, if the Ministry of Finance growth projection of 1.5% holds, this will be the first time in nearly four decades (37 years) where the Ghanaian economy grew by less than 2%. The last time the Ghanaian economy grew by less than 2% was in 1983 when the economy grew by -4.6%. Ghana Statistical Service (2020) estimates that in the first quarter of 2020, GDP grew by 4.9% against a growth of 6.7% recorded the same time last year, a decline of 26.9%. Note that the impact of the pandemic begun to be felt more in March (end of the first quarter), which means that the growth would have been much slower had Ghana started recording cases at the beginning of the first quarter.

Impact of COVID-19 on poverty

The huge income losses discussed in sub-section 5.1 has resulted in severe increases in poverty nationally and across the geographic landscape as shown in Table 3. At a base of 20.5%, absolute poverty rises sharply to 34.0% in the advent of COVID-19. This huge rise in poverty potentially produces over 4 million new poor people across the country. This means that COVID-19 turns back the clock of poverty reduction to as far back as 15 years. The last time Ghana recorded poverty rate in excess of 30% was in 2005/06 when the poverty rate stood at 31.9%. Our estimates compare favourably with those of Amewu et al. (2020). Amewu et al. (2020) estimate that the COVID-19 induced lockdown led to a rise in poverty from a base of 24.2% to 36.7%, an increase of about 12.5 percentage points compared to our estimate of 13.5 percentage points increase in poverty. Again, Amewu et al. (2020) found that the lockdown will produce 3.8 million additional people falling below the poverty line while our estimate stands at 4.1 million people.

Table 3: Poverty effect of crisis at the national poverty line (GH¢ 1,314)

	Poverty Rate			People falling into poverty
	Before crisis (%)	After crisis (%)	Percentage point change (%)	
National	20.5	34.0	13.5	4,165,439
GAMA	1.1	22.7	21.6	1,033,517
KAMA	3.5	27.8	24.3	783,466
Other Urban	9.3	27.1	17.8	1,549,738
Rural	37.7	43.3	5.6	798,718

The national picture hides the geographical disparities in the impact of COVID-19 on poverty. The poverty rate in GAMA jumps astronomically from a base of 1.1% to 22.7%, a percentage point increase of 21.6. Even more dramatic is the rise in poverty in KAMA – poverty shoots up to 27.8% from a base of 3.5%, a rise of 24.3 percentage points. Majority of the new poor are concentrated in urban areas and more particularly the two most populous regional capitals (Accra and Kumasi), which also happen to be the areas that were under lockdown. GAMA and KAMA alone host about 44% of the new poor (1.8 million people). In all, 80.8% of the new poor people (3.4 million people) are found in urban areas (GAMA, KAMA, Other Urban). This probably explains why most government interventions to mitigate the impact of COVID-19 are concentrated in urban areas. But rural areas have not been spared of the poverty effects of the pandemic. Poverty rate rises from 37.7% to 43.3%, leading to 798,718 new people falling below the poverty line.

Impact of COVID-19 on inequality

Large shifts in poverty often lead to movements across the income distribution, which potentially leads to a widening gap between the rich and the poor. But because the pandemic affects everyone though disproportionately, we do not expect massive increases in inequality relative to the rate of increase in poverty. At the national level, inequality rises from a base of 42.1% to 47.5%, a percentage point increase of 5.4 (Table 4). Though this is not a massive jump, any increase in inequality is worrisome much more a jump in excess of 5%. Thus, COVID-19 has made Ghana a much more unequal society than it was in the pre-crisis period.

Table 4: Inequality effect of crisis

	Gini Coefficient		Percentage point increase (%)
	Before crisis (%)	After crisis (%)	
National	42.1	47.5	5.4
GAMA	33.3	48.1	14.8
KAMA	33.7	46.4	12.7
Other Urban	34.8	43.1	8.3
Rural	40.6	41.7	1.1

The most significant jumps in inequality occur in lockdown areas where inequality rises by 14.8 and 12.7 percentage points in GAMA and KAMA, respectively. Clearly, urban areas are the most affected, drawing our attention to an aggravation of the phenomenon of urban inequality. Several reasons account for the sharp inequality rises in urban areas relative to rural areas. First, all the lockdown areas were urban and bore the full brunt of the restrictions that were imposed and hence suffered more income losses. Second, there were already sharp disparities in incomes among urban dwellers pre-COVID-19, such that the phenomenon of duality was all too apparent

(e.g. urban rich living in prime areas and gated communities while urban poor lives in slumps). Third, most urban poor work in sectors that are more vulnerable to the effects of the pandemic. For example, street hawkers, head porters, artisans among others who form the core of urban poor were proscribed from working during the lockdown, causing most of them to lose their entire income. This increasing urban inequality draws attention to the need for the Government to aggressively tackle urban inequalities with all the forces it can command. This is in tandem with Sustainable Development Goal 10 which seeks to reduce all forms of inequalities, including intra-urban inequalities.

Potential job and income losses by sector

Table 5 shows the differential impact of the pandemic on income losses by sector of employment. The most severely hit sectors are those that were classified as non-essential and were prohibited from operating during the lockdown; those sectors that are closely linked to international trade; and those easily affected by anti-gathering and social distancing protocols. The most affected sector is arts, entertainment and recreation, which has 57% (17,916 individuals) of their members losing all or some of their incomes. This is understandable because even up till now, most activities in the sector are still under restriction. There is still a ban on international travel in place; sporting activities are banned; and live shows, weddings, funerals, and conferences that can attract more than 100 patrons are not permitted. Cinemas and pubs have grounded to a halt. All these restrictions imposed significant difficulties on the sector, thus hitting industry revenues very hard and could potentially result in very significant job losses. The second most severely affected sector is transportation and storage, which had 39.5% (130,266) of individuals losing some or all of their incomes. Transport sector activities as measured by number of vehicles registered and passenger capacity dropped during the pandemic. Vehicle registration declined by 26% in March 2020 alone (BoG, 2020). Again, the transport sector was forced to reduce passenger capacity in the advent of COVID-19 and this resulted in reduction in passenger capacity by 25% to 33% (Ayamga, 2020). Again, during the lockdown period, intercity travels were not permitted, thus slowing down business in the transport and storage sector.

Accommodation and food service activities sector is the third most severely affected by income and potential job losses as a result of the pandemic induced restrictions. About 35.4% (66,416) of employees in this sector lost all or some of their income, some of whom are likely to lose their jobs. In the advent of the lockdown, restaurants were restricted to take away services while restrictions on movement and social distancing measures further drove down demand for restaurant services. Other big losers are manufacturing; education; professional, scientific and technical activities; and mining and quarrying.

Table 5: Total and average income loss by industry groups

	Total Lost Income (GHS per month)	Total Employed	Total Income Losers	Lost Income per Income Loser (GHS per month)	Proportion who lose income
Agriculture, forestry and fishing	32,951.896	6,653,658	412,618	0.08	6.201
Mining and quarrying	47,992.881	160,154	45,261	1	28.261
Manufacturing	126,204.470	445,823	147,263	1	33.032
Electricity, gas, steam and air conditioning supply	384.612	40,786	691	1	1.695
Construction	52,372.572	364,242	51,437	1	14.122
Wholesale and retail; repair of motor vehicles and motorcycles	84,653.367	724,517	88,845	1	12.263
Transportation and storage	139,589.050	329,962	130,266	1	39.479
Accommodation and food service activities	57,069.700	187,464	66,416	1	35.429
Information and communication	0	43,329	0	0	0.000
Financial and insurance activities	8,976.887	135,786	5,056	2	3.723
Real estate activities	0	6,108	-	0	0.000
Professional, scientific and technical activities	16,631.899	122,442	36,044	0	29.437
Administrative and support service activities	8,817.286	95,178	15,863	1	16.667
Public administration and defence; compulsory social security	0	207,633	0	0	0.000
Education	94,929.716	587,983	163,011	1	27.724
Human health and social work activities	0	211,699	0	0	0.000
Arts, entertainment and recreation	21,791.016	31,208	17,916	1	57.407
Other service activities	139,018.550	3,540,578	519,732	0	14.679
Activities of extraterritorial organizations and bodies	0	17,153	0	0	0.000

Fiscal cost and policy simulations

Having estimated the income losses, and poverty and inequality effects of the pandemic, it is appropriate to calculate the amount of fiscal resources required to offset the increases in poverty occasioned by the pandemic. Though the total amount lost per month due to the pandemic is GHS 1.8 billion (5.4% of monthly GDP), this will not be the amount government has to spend to bring poverty back to pre-crisis level. This is because some people may have lost income but are still above the poverty line and therefore do not need any support to remain non-poor. Transferring cash to such people will be inefficient especially for a developing country with limited resources. Table 6 shows that based on a Universal Cash Transfer (UCT) or Universal Basic Income (UBI), the total monthly amount required to restore poverty back to pre COVID-19 poverty rate is a little over 1 billion. This is about 3.1% of monthly GDP and an average transfer of GHS 47 per adult equivalent per month.

UCT has its own benefits and short falls. One clear benefit is that it restores poverty rate back to pre-crisis level without fail. Another benefit is that it ensures that all those who actually need help do benefit from the transfer, as opposed to a targeted transfer where we may miss out some eligible people. Thus, UCT eliminates programme ‘exclusion errors’ – the number of people who do not receive transfer who should. Nobody who needs the transfer will be denied under UCT. Another advantage of UBI is transparency, since everybody knows how much each is entitled to and the total budget thereof. Again, while targeted transfers have distortionary impact on labour markets, UBI does not. The distortions arise as a result of the fact that beneficiaries of targeted transfers may be reluctant to take up jobs for fear of being dropped from the transfer programme (Sadlek, 2019).

A clear disadvantage of a UBI is that it can be very inefficient in terms of allocating resources. It is susceptible to ‘inclusion errors’ – the number of people who receive transfers who should not (Sadlek, 2019). In the current analysis (last column of Table 6), the UCT produces an excess transfer share of 57% of total transfer. Excess transfer is defined as any amount that moves those who were poor pre-crisis above the poverty line or raises the incomes of those who were not poor prior to the crisis above their income prior to the crisis. In this case, more than half of total transfer is excess – we are giving to people who do not actually need it.

Table 6: Overall impact and fiscal cost of policy scenarios

	Before crisis (%)	After crisis (%)	After crisis + Transfer	GHS (million)	in US\$ (million)	Share of monthly GDP	Average transfer per adult equiv. (GHS)	Share of excess transfer in total
UCT	20.5	34.0	20.5	1014	186	3.1	47	57
Electricity subsidy	20.5	34.0	32.7	102	16	0.4	4	1
Water subsidy	20.5	34.0	31.8	161	29	0.5	7	1
Water + Electricity subsidies	20.5	34.0	30.5	263	45	0.9	11	2

An alternative transfer policy used by the Government of Ghana during the crisis is electricity rebate where lifeline consumers enjoyed free electricity while non-lifeline customers received a 50% subsidy. This policy covered three (3) months (April, May and June). Our estimates show that this policy had a marginal effect on poverty reduction, such that poverty declined by 1.3 percentage points. An additional policy strategy that was pursued by the Government was to absorb water bills for all customers for three (3) months (April, May and June). This had a slightly better poverty reduction power, with poverty falling by 2.2 percentage points. The two policies combined reduced poverty from a base of 34% during the lockdown period to 30.5% in the post crisis period, a decline of about 3.5 percentage points.

There are three points worthy of note here. First, the two policy initiatives the Government opted for have lower budgets (GHS 102 million for electricity and GHS 161 million for water) and excess transfers (2% for both policies) compared to UCT (GHS 1 billion budget and 57% excess transfers), but so also is their impact on poverty. It is the lower nature of the excess transfer of these policies that makes them more appealing to governments than UCT. Second, water and electricity rebates have marginal impact on poverty because they are susceptible to 'inclusion' and 'exclusion' errors – some people receive benefit who should not and some people do not receive benefit who should. The low poverty impacts of the water and electricity subsidies can further be explained that though many people who benefit from those policies are not poor either before or after the crisis, many lost income and the policies do not transfer back to them as much as they lost. Lastly, current policy interventions (water and electricity subsidies combined) are incapable of restoring poverty back to pre-lockdown levels. This means that the Government has to step up efforts to address the high poverty level induced by the pandemic. The Government could also consider scaling up the existing policies such that the water and electricity subsidies are extended to at least one year instead of three months.

6. Conclusion and policy implications

After a more careful and nuanced analysis of the impact of COVID-19-induced lockdown and associated measures in Ghana, we found that the income losses are massive, affecting many across the income distribution. About GHS 1.8 billion (5.4% of GDP) is lost per month and affecting 26% of the population. These losses have led to severe increases in poverty (poverty increases from a base of 20.5% to 34.0%), thus erasing 15 years of poverty reduction gains. COVID-19-induced lockdown and related measures have driven 4.2 million additional people below the poverty line with majority (80.8%) of these new poor people residing in lockdown areas (GAMA and KAMA) and other urban areas. GAMA and KAMA alone host 44% of the new poor. This calls for the need to design government policies to carefully target the new urban poor. These new urban poor are low income earners working in sectors such as arts, entertainment and recreation; transportation and storage; accommodation and food service activities; manufacturing; and professional, scientific and technical activities as these were the sectors most affected by the pandemic-induced lockdown.

Not only has poverty increased but inequality as well. Inequality has increased by 5.4 percentage points nationally. But what is more worrying is that intra-urban inequality has increased sharply. Inequality increased by 14.8, 12.7 and 8.3 percentage points, respectively, in GAMA, KAMA and Other Urban areas. Here again, the lockdown areas are the most severely affected. If this COVID-19 induced intra-urban inequality is not addressed, Ghana will be unable to achieve SDG 10 which seeks to reduce inequality of all forms by 2030. This reinforces the need to design policies that are targeted at the urban poor.

The fiscal implications of the pandemic-induced losses are huge – about 3.1% of monthly GDP is required to restore poverty rate to pre-crisis level. This amounts to GHS 1 billion per month. We explored the possibility of transferring this income through UCT policy. This will entail an average monthly transfer of GHS 47 per adult equivalent. The advantage of UCT is that it ensures that all eligible persons benefit from the programme and this benefit is at least able to restore the country back to pre-crisis poverty level. However, it may lead to a lot of inefficiencies as a number of people who are ineligible may end up benefiting from the programme, thereby leading to resource misallocation. Our analysis of current government policies such as water and electricity subsidies shows that these measures had very

small impact on poverty reduction. Thus, existing policies such as free water and electricity rebates are inadequate if we want to restore poverty back to pre-crisis level. We propose a scaling up of these policies such that instead of limiting them to three (3) months they can be extended to at least a year. This should have a larger impact on poverty reduction.

Notes

1. AERC Research Project on “Poverty Consequences of Epidemic-Induced Lock-downs, and the Fiscal Costs of Off-setting them”
2. IFPRI launched country studies to estimate the impact of COVID-19 on poverty and other outcomes across the world. For example there are studies in Ghana, Nigeria, Ethiopia, Myanmar, etc

References

- Amewu, S., Asante, S. Pauw, K. and Thurlow, J. 2020. The economic costs of COVID-19 in Sub-Saharan Africa: Insights from a simulation exercise for Ghana. Strategy Support Programme Working Paper No. 52, International Food Policy Research Institute.
- Ayamga, E. 2020. Coronavirus: Trotros to carry just 2 passengers per row from today. 26th March 2020. Accessed on 13th April 2020. <https://www.pulse.com.gh/news/local/coronavirus-trotros-to-carry-just-2-passengers-per-row-from-today/qqgk5n9>.
- ILO. 2020. COVID-19 and the world of work: Impact and policy responses. ILO Monitor First Edition. ilo.org/global/topics/coronavirus.
- KPMG. 2020.. COVID-19: Tax update on implementation guidelines of tax incentives. <https://assets.kpmg/content/dam/kpmg/gh/pdf/gh-tax-covid001.pdf>.
- OECD. 2020. OECD Employment Outlook 2020: Worker security and the COVID-19 crisis. Paris: OECD Publishing.
- Quartey, P. 2020. COVID-19 and the plight of private school teachers in Ghana. <https://isser.ug.edu.gh/latest-news/covid-19-and-plight-private-school-teachers-ghana>.
- Sadler, B. 2019. Study finds issues with universal basic income for developing countries. <https://basicincome.org/topic/universal-cash-transfers/>.
- Sumner, A., Hoy, C. and Ortiz-Juarez, E. 2020. *Estimates of the impact of COVID-19 on global poverty*. Working Paper 2020/43). UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2020/800-9>.
- Wislon, E. 2020. COVID-19 impact on Ghana real estate. Chushman and Wakefield. <https://www.cushmanwakefield.com/en/insights/covid-19/covid-19-impacts-ghana-real-estate>.
- World Bank. 2020. Global Economic Prospects, June 2020. Washington, DC: World Bank.

Appendix

Table A1: COVID-19 interventions

Intervention	Package	Target group
Water	100% rebate on pipe borne water from the Ghana Water Company for three months (April-June 2020)	All Ghanaians with access to pipe borne water
Electricity	100% rebate for all lifeline consumers (i.e., those consuming less than 50 kilowatt hour per month) for three month (April-June, 2020)	Lifeline consumers
	50% rebate for all other consumers (i.e., those consuming above 50 kilowatt hour per month) for three months (April-June, 2020)	All other consumers
Tax reduction	Exemption from the payment of tax on employment emoluments for three months (April-June 2020)	All health workers
Salary increment	Allowance of 50% of basic salary/month for four months (March-June 2020)	Frontline health workers
Contract tracing	A daily allowance of GHS 150 (approximately US\$ 26) payable to those undertaking contact tracing	People embarking on contract tracing
Insurance	Insurance package, with an assured sum of GHS 350,000 (approximately US\$ 60,345)	All health workers
Stimulus package	GHS600 million for business enterprises	More than 200,000 micro, small and medium scale enterprises
Free meals	One hot meal during lockdown	Homeless and vulnerable



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