Covid-19: Socio-Economic Implications and Effect of Government Policy Initiatives on Developing Economies

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Authors' contributions

This work was carried out in collaboration among all authors. Author AI designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author JC managed the analyses of the study. Author VT managed the literature searches. All authors read and approved the final manuscript.

Data Article

ABSTRACT

This research investigates the socio-economic implications and effect of government policy initiative of coronavirus on developing economies from a neoliberalist theoretical perspective using a pragmatist approach and mixed method research. Quantitative and qualitative data have been employed to evaluate the effect of the virus on developing economies. The findings of this research reveal the following: that the coronavirus caused significant mortality and morbidity in developing countries and its rapid spread of across countries, and across borders led to a global economic recession. Several drastic government measures were taken to curb the spread of the virus through restriction of individual freedom and movement. These measures include social distancing, and isolation; closures of educational institutions, religious institutions, and businesses, prohibition

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of public events, and restriction of domestic and foreign travel. Furthermore, the prolonged lockdown measures taken by developing countries to contain the spread of the virus worsened their economic crises. It is expected that the pandemic will reduce economic growth, worsen government debt, increase inflation and worsen current account deficits. The long-term effect of the pandemic in developing countries is the worsening of inequality and poverty and wiping off the economic development strides gained in the last two decades.

1. INTRODUCTION

On the 31st of December, 2019; the World Health Organization (WHO) first reported the spread of a pre-existing unknown virus. The virus had infected a number of Wuhan residents in the capital of Hubei, a province in Central China with an estimated population of 10.5 million people WHO, [1]. The virus name was revised to Coronavirus Disease 2019 or COVID-19 by WHO. So far, it has infected at least 5.2 million people worldwide and killed over a 338,757, a death toll that has exceeded 150,400 killed in more than three dozen countries by Swine Flu in 2009 WHO, [2].

As the effect of the virus spread in intensity with increasing number of infected cases and worsening rates of mortality, WHO on the 11th of March, 2020 declared coronavirus a pandemic. COVID-19 has obviously become a global epidemic that is highly contagious given its potential effect on the entire world economy and world population IMF, [3]. According to the World Bank and International Monetary Fund (IMF) based on their scenario simulation models, global economic growth could decline by an estimated 0.6% for the year 2020 IMF, [4]. Several other global financial institutions such as Goldmansach, J P Morgan Chase, McKinsey and Pricewater Cooper have also predicted a fall in the growth of the global economy as a result of the impact of COVID-19 outbreak.

As such, there is the likely possibility that the global economy could enter into an economic recession in the third quarter of 2020 when the direct and indirect effects of the crisis through the supply chain (e.g demand and supply shocks, commodity slump, fall in global tourism, etc). However, the spread of the pandemic in developing countries in Africa appears to be progressing slowly, but studies on the socio-economic impact of COVID-19 on individual African countries are yet to be carried out. According to current surveillance update, the virus has spread through 50 African countries: 51,752 are infected, and 1567 deaths WHO, [2]. So far, the virus is showing no signs of slow down because of Africa's openness to international trade, tourism and migration it is not immune to the harmful consequence of COVID-19 (WHO, 2020c).

Recent weeks have sparked a renewed interest in infectious diseases, and the threat they pose to socio-economic development IMF, [5]. The surge in the interest on the socio-economics effect of infectious diseases has been on the increase along with current knowledge of the enormous social and economic costs that they can involve. For instance, those that arise from the enormous ailment and mortality that is associated with HIV/AIDS in African countries or the short lived but serious economic shocks that happened as a result of SARS and Ebola. Very few papers on the effect of economic shocks on economic growth and development have examined how pandemics such as the coronavirus impact on economic growth in developing countries, or cause global economic recession and the consequence for developing countries. Most of the literature on economic shocks, tend to limit their causes to economic catastrophes that are usually man-made Jagannathan et al., [6]; Bezemer, [7]; Mian and Sufi, 2010; Bentolila et al., [8]; Bagliano and Morana, [9]. This research paper attempts to investigate the potential socio-economic effect of coronavirus on developing countries by examining the direct and indirect channels through which the pandemic is likely to influence the economy through the lenses of Neoliberalism. Furthermore, it discusses some of the policy measures that have been deployed in developing countries to mitigate, contain and stem the spread of the virus and the implication of the policies for the economy. Its aim is to contribute to the economics literature by exploring how a sociological and public health care problem, can become an economic problem, or cause a global economic recession.

1.1 Neoliberal Philosophical Disposition

Neoliberalism is an economic philosophy which maintains that wellbeing of people is best advanced through the maximizing of entrepreneurial freedoms; in an institutional framework characterized by free markets, free trade, private property rights, and individual liberty Navarro, [10]. The role of the state is seen as one that creates, enables and preserves the necessary institutional framework and environment that allows such practices to thrive Birch, [11]. The state then, has to be primarily concerned with national defence and judicial functions that are focused on securing the right to private property, and regulating of the free markets. Furthermore, if there are non-existent markets in areas such as health care, social security, environmental pollution and education, then the state must intervene through state action in creating these markets. However, state intervention in the markets, should be kept to the barest minimum because of powerful interest will usurp state resources to distort the free market mechanism, and the state is not in the best position to possess considerable information to second guess market prices Harvey, [12].

The neoliberalist suggest that by allowance of competitive free markets to thrive, privatizing state owned enterprise, promoting of free trade, welcoming institutional investors from developed countries, expanding exports, and removal abolishing of the plethora of government regulation and price distortion in product, factor and financial markets; the following is likely to occur: an increase in both economic growth and economic efficiency Bergh and Nilsson, [13]; Isukul, Chizea and Agbugba, [14]. Free market proponents argue that the markets alone are efficient – product markets are essential in providing the best signals for investment in new business activities; labour markets respond to the emergence of these new industries in the most suitable ways: as economic theory postulates that producers know best what to produce, and how to produce in the most efficient manner De Vogli, [15]. Also, factor and product prices are precise reflections of scarcity values of goods, services and resources not only now, but in the foreseeable future too Todaro and Smith, [16].

Neoliberalism was meant to rejuvenate capitalism, restore consumers and investors' confidence and also dampen the socialist inclinations of the state through minimizing state intervention in economic activities De Vogli, and Gimeno, [17]. However, it has not been very successful in doing so, economic growth rates over the past three decades have remained consistently low and below that of statist post-war era De Vogli, [15]. Sadly, the capitalist system of production governed by America and Europe was overstretched in at least two ways. First, as a result of the focus on economic efficiency, the system was tensed with low or non-existent inventory and little financial capacity to deal with contingency because of its just in time production techniques. Second, it squeezed small businesses and workers hard, making them work long and hard hours for low wages and prices and facing all kinds of social and financial risks in the process Desai, [18].

Neoliberal theory was a replacement of the Keynesian theoretical framework. Keynesian economics and economic policy-making was predominant between the period of 1945 and 1970, however it was replaced by monetarist approach, whose dominant theories was the research of Friedman, [19]; Friedman and Schwartz, [20]. Since then, monetarist theory has dominated macroeconomics discourse and macroeconomic policy-making as seen by the intent towards reducing state regulation on the economy and increasing emphasis on stability in economic policy rather than Keynesians goals of reducing inequality, alleviating poverty and striving for full employment.

The adoption of neoliberal thinking had serious ramifications for the public health care sector. The health effects of neoliberal economics and globalization have been examined by evaluating the consequences of single policy reforms. Such policies, include the Washington Consensus which focuses on privatization, financial deregulation and trade liberalization when implemented have been associated with worsening poverty rates Milanovic and Ersado, 2007; Jerzmanowski and Malhar, [21], poorer public healthcare outcomes Hopkins, [22]; Stuckler et al. [23]; Stuckler et al. [24], and behavioural risk factors such as obesity Evans et al. 2001; Hawkes, [25] and smoking Bettcher, [26].

Furthermore, structural adjustment programmes by the International Monetary Funds (IMF) have been associated with lower public expenditure Ooms and Schrecher, [27] and this has worsened illness outcomes such as such as

hepatitis, influenza, severe acute respiratory syndrome (SARS) and tuberculosis (Stuckler et al, 2008). In its defence, the World Bank stated that countries who took the loans and implemented the reforms succeeded in improving education, health and social welfare programmes compared to countries who refused to take the loans and did not implement the reforms (World Bank, 1994; Jayarajah et al, 1996). However, several independent studies have also investigated the impact of these policies, in the absence of IMF or the World Bank and have found that the austerity programmes have a negative effect on public healthcare outcomes Alarco´n-Gonza´lez and McKinley, [28]; Gilson and McIntyre, 2005). For developing countries who have embraced neoliberal philosophy, through privatization of public health facilities, reduced expenditure to public health, there is the tendency for such countries to be poorly prepared to respond to a pandemic of this magnitude and as such, a poor response could increase the morbidity and mortality rates in such countries.

2. SOCIOLOGICAL EFFECT OF A PANDEMIC ON THE ECONOMY

In the last century, pandemics killed thousands and infected millions of people on the planet. They also, caused wide-spread severe illness to large expanse of the population. The 'black death' plague killed half the population of Europe Ross et al., [29]. More recently, in the 20th century, three major pandemics have wrecked enormous havoc on the continent: 1) Spanish flu in 1919, caused an estimated 40 million deaths; 2) Asian flu in 1957, caused approximately 2 million deaths, 3) Hong Kong flu in 1968 caused about 1 million deaths Wildoner, [30]. Infectious disease outbreaks have the capacity to cause high mortality and morbidity in the world. For developing countries, they have the capacity to cause many deaths, and the likelihood of their death outcome is within the range of 7 to 10 percent Qiu et al., [31], this is a result of the fact that many developing countries have weak public healthcare infrastructures, and poor health care institutions, lacking in equipment, tools, and machinery needed to mitigate and contain the such infectious diseases Wong & Leung, [32].

The threat of a pandemic has also increased because the world has become a global community. In recent times, Ebola and Dengue pandemics increased astronomically in developing countries. The Ebola infectious disease outbreak in Sub-Saharan Africa was unprecedented and resulted in a public health emergency of international proportions. As the public healthcare facilities in Guinea, Liberia and Sierra Leone were inadequate to tackle the pandemic. In November 2015, WHO reported that more than 11,000 deaths, while 29,000 were infected. For a pandemic, the infected case fatality was estimated at 40%. The 2016 dengue epidemic was more devastating than Ebola in Latin America. Initial cases of the virus were reported in Brazil on the month of May 2015 and caused the death of 1030 persons while an estimated 1.5 million people were infected (Troncoso, 2016).

While untimely death and increase in numbers of the sick and infected persons are important social consequences of a pandemic, there are specific measures that can be taken to mitigate and contain the spread and damage a pandemic can do to human lives Bobashev et al., [33]. Such measures include restriction and limitation of travel to affected countries, states and cities; closure of airports, sea ports, educational institutions, religious institutions, markets, non-essential businesses, and recreational facilities such as sporting centres and sporting events. All these measures are targeted at containing the spread of the pandemic and saving human lives.

However, these measures are not without consequences, for example, closure of airports to contain the spread of SARS from Southern China that spread to more than 32 countries disrupted economic activity in the affected region Wong and Leung, [32]. Similarly, closure of educational institutions such as primary, secondary and tertiary schools to reduce morbidity and mortality during the 2009 pA(H1N1) influenza epidemic in America saw an estimated 1400 schools in 235 communities closed Navarro, Kohl, Cetron, & Markel, [34]. More importantly, school closure also resulted in a range of social and ethical issues, since poor families from underprivileged homes are more likely to be significantly affected by such an intervention Cauchemez et al., [35].

Moreover, in an attempt to mitigate the spread of a pandemic, closure of markets and food chain stores have also been enforced during the zoonotic outbreaks of H7N9 and H5N1 (Peiris, Cowling, Wu and Feng, 2016). As a result, food supply in cities was disrupted and it caused a lot of suffering as people could not find food and other essential products to purchase because the shops and markets had been closed down. The

pandemic also had a long-term effect on people's diet as consumption of poultry food and product declined by 80% in Jilin province, China Zhang and Liu, [36].

There were long term implications in terms of change in the local diet of the affected persons, the consuming of poultry related products reduced by more than 65% on the average in Jilin town in China Zhange and Liu, [36] and it affected the income of farmers who reared chicken and other life stock products. In a nutshell, the infectious disease causes some long-term physiological damage which affects the way they earn a living (Folyan and Brown, 2015; Ribeiro and Kitron, 2016). For instance, Zika virus has caused neurological disorder for those children infected with the disease causing severe lifelong limitations. Consequently, resulting in domestic government having to make difficult tradeoff between the uncontrolled spread of the disease and the social costs of intervention Prieto and Das, [37].

3. ECONOMIC EFFECT OF INFECTIOUS DISEASE OUTBREAK THROUGH DIRECT AND INDIRECT CHANNELS

As the literature suggests, there are several channels through which a pandemic or an infectious disease outbreak can affect the economy. The first is through trade: there is likely to be a significant decline in the global value supply chains that accounts for 50% of global trade are being disrupted by industrial factory shutdowns and delayed resumption of business operations. As a result, it is expected that major economies will experience growth deceleration, including countries in Asia, this will have an effect on the demand for export from Sub-Saharan African exports. Consequently, a decline in demand for exports will reduce the international price of commodities that the region exports – especially, mineral ores, oil and metals – and thus, affect countries with strong value supply chain participation.

The second is foreign capital flows, these flows are likely to be intentionally diverted away from countries severely affected by coronavirus. Hence, this would translate to lower foreign direct investment inflows that will affect extractive and mining industries and the manufacturing sector too. As access to financial flows from Chinese Capital markets becomes restricted, investments for infrastructure in developing countries will be severely affected. These may delay the delivery of infrastructure projects (for example, ports, airports and roads) as a result of reduced financial flows and preparatory, procedural and implemental challenges that are likely to emerge from disrupted financial flows. The spread of the virus and plunging oil prices is capable of triggering massive capital flights from developing countries – especially, as portfolio investment outflows from such countries are likely to be on increase, as jittery investors rush to salvage what is left of their portfolio investments as share prices come crashing down.

The third is its effect on health, the effect is in three ways, the number of infected persons who become sick and loss of human life/skilled manpower, as a result of the virus, and underutilization of human capital as factories, and businesses are idle and people are forced to stay at home. The fourth is through tourism and transport sectors, that is considered a major source of revenue for many developing countries is rapidly shrinking with declining demand for tourism and expanding travel restrictions. These disruptions have been caused by the mitigation and containment measures imposed by government to disrupt and reduce the spread of the virus.

For countries in Sub-Saharan Africa, many factors pose a challenge for the government to effectively disrupt, mitigate and contain the spread of the virus. Namely, poor access to sanitation facilities and safe water, densely populated urban informal settlements, and fragile public health care systems. The economic implication of these measures is enormous and far reaching and has caused a drastic downturn in economic activities for major trading and investment partners in developing countries, disruption of global financial markets and massive interruptions in the global supply chain. It is anticipated that developing countries with a greater dependence on tourism and hospitality for revenues will be severely affected (South Africa, Kenya, Botswana and Mauritius among others).

More importantly, the influenza virus is more contagious than HIV and its onset of the influenza virus can be abrupt, sudden, unexpected and very contagious. This is also reflected in the global response to COVID-19. Entire cities in China, America, Spain and Italy have shut down economic activities, non-essential businesses have closed down, social distancing policy has been implemented and

travel restrictions has been placed on people visiting from infected countries. Furthermore, the fear of an infectious and deadly virus is quite similar in its psychological effects to threats of terrorism and usually causes significant amount of stress, which often have long-term consequences Hyams et al., [38]. In such circumstances, a lot of people would feel vulnerable and at risk at the beginning of a pandemic, even when the actual risk of dying from the infectious disease is quite low.

3.1 Conventional Policy Responses to Pandemics in Developing Countries

In Africa region, notwithstanding a late arrival, the pandemic outbreak has spread rapidly across the region in recent months. As of May 14, 51,752 cases of corona virus were confirmed in 54 countries, with 1567 deaths recorded. A small number of cases in the region are as a result of local transmission. The lack of testing tool kits and equipment in many countries in Sub-Saharan Africa implies that the figures recorded will understate the actual number of persons infected by the virus. South Africa, Algeria and Ghana have recorded the largest number of outbreaks in the region, with 12,074; 6253; and 5408 confirmed cases.

To curb, contain and disrupt the spread of the virus, these countries have imposed a travel ban on foreign persons from high-risk countries, forcefully closed educational institutions, religious institutions, and prohibited public gathering of more than 80 people in East and West Africa (Kenya, Rwanda, Senegal, Ghana and Burkina Faso). While the intent of these containment measures is to curb and contain the spread of the outbreak, it is likely that they may not be sufficient to stem the spread of the virus without combining it with the necessary healthcare interventions and appropriate population response. To address the enormity of the problem caused by the corona virus epidemic, governments in developing countries employed a combination of fiscal and monetary policy mix targeted at softening the blow from the epidemic.

Some of the fiscal policy measures include cash or in-kind transfers to reduce the economic strain from the lockdown initiatives. To deal with threat of business insolvency for small and medium scale enterprises and industries that are directly affected by the pandemic such as the tourism and hospitality industries. Developing countries in the Sub-Saharan region injected liquidity into the financial system that allows small and medium scale businesses access to loanable funds to cushion the effect of the shocks caused by lockdown measures targeted at disrupting the spread of the virus.

4. PRAGMATISM

Pragmatism can be described of as a bridge between methodology and paradigm. Alternatively, it can be considered as a position at the interface between philosophy and methodology Greene and Caracelli, [39]. In simple terms, pragmatism is referred to as a strategic approach to resolving a problem and has strong ties to mixed method research. Patton [40] suggests that a pragmatic approach is a means of encouraging methodological appropriateness that allows for researchers to increase both methodological adaptability and flexibility. He identifies as a pragmatist, maintaining that doing so is one way of sensitizing evaluators and researchers of methodological biases that are likely to emerge from their personal socialization experience within their various discipline areas.

Pragmatism as an approach deals with implementation or application of – what works, what is feasible, and what is practical and as such, finding a way out of a difficulty position or situation Patton, [40]. As such, researchers who choose to employ this approach focus on the research problem rather than concentration on procedures or methods and use every available approach at hand to probe or investigate the issue Rossman and Wilson, [41]. Morgan [42] and Creswell [43] have argued that some of the benefits of employing a pragmatic stance is that it is not limited itself to any epistemic or ontological paradigm. Thus, it can be adapted to any philosophical view point. Consequently, it allows for researchers to employ the use of both quantitative and qualitative standpoints in accomplishing their target goal. This implies that pragmatism allows the researchers some measure of flexibility in choice of methods, procedures and techniques of research that best suits their objectives and necessities.

On the subject of epistemology, pragmatism suggests a different perspective from positivism and interpretivism. The positivists epistemological position is that there is an objective reality out there that is singular, objective and measurable. On the other hand, interpretivists differ on the subject of reality, they

argue that reality is multiple, subjective and cannot be measured. Pragmatism sidesteps the hotly debatable and contentious issue of reality and truth, and accepts philosophically, that there exist both singular and multiple realities that are open to empirical inquiry and it is more concerned with solving practical problems in the real world Creswell and Clark [43]: cited in Feitzer 2010:8). In this research, pragmatism allows for employing the use of quantitative and qualitative data in answering the research questions on the socio-economic implications of coronavirus on developing countries. The researchers have employed the use quantitative data such as morbidity and mortality rates, change in the price of commodities in developing markets, growth rates of gross domestic product, debt as a percentage of gross domestic product and governments policy responses in selected developing countries.

5. MIXED METHODS RESEARCH

Mixed method research can be explained as social research that involves collecting, analysing and processing of both quantitative and qualitative data. At some point in the research process, there is an integration of the two sets of results that allows for drawing inferences from quantitative and qualitative results Johnson and Onwuegbuzie, [44]. In undertaking this kind of integration, it sets the basis for providing a better understanding of the research subject. In doing so, it enables the following to be achieved: a detailed and in-depth response to the research questions, identification of new research questions, and suggestions to modification of subsequent research designs (Creswell and Plano Clark, [43].

Heyvaert, Maes, and Onghena [45] suggest that mixed method research can be applied at the primary empirical level and the synthesis level. At the primary level, mixed method research involves collecting quantitative and qualitative data directly from research respondents. This could be done through observations, interviews, questionnaires and a combination of these diverse data in a single study. A synthesis level mixed method research study is a rigorous and systematic review that meticulously applies the principles of mixed methods research. In executing such a synthesis, the data that is included in the review are findings that have been extracted from several published quantitative, qualitative and mixed primary level articles. As earlier stated, the researchers have

employed the use of both quantitative and qualitative data in the analysis of data section, mixed method research allows for using quantitative data such as the morbidity and mortality rates and qualitative data, such as the government policy responses to the pandemic.

5.1 Triangulation of Data

The triangulation metaphor used in research was derived from construction, surveying, and navigation at sea. The premise was based on the idea of using two known points to locate the position of an unknown third point, by forming a triangle Campbell & Fiske, [46]. The intent in research is to use two or more aspects of research to strengthen the design to increase the ability to interpret the findings Denzin, [47].Triangulation is the combination of two or more data sources, investigators, methodologic approaches, theoretical perspectives Denzin, [47]; Kimchi, Polivka, & Stevenson,1991, or analytical methods (Kimchi et al., 1991) within the same study. These combinations result in data triangulation (Denzin, 1970; Patton, [40]), or analytical triangulation (Kimchi et al.,1991). When more than one type of triangulation is used, for example, two or more data sources along with two or more investigators, the resulting complex triangulation is referred to as multiple triangulation (Denzin, 1970; Woods & Catanzaro, 1988). In discussing the socio-economic implication of the pandemic on developing countries, the researchers have drawn their data from various sources such as WHO situational reports, World Bank reports, and IMF regional outlook for Sub-Saharan Africa.

6. DISCUSSION OF RESULTS

The sad reality is that developed and developing countries as a whole were caught unprepared for an epidemic such as this. Covid-19 took the whole world by surprise and as such caught Europe, America, Asia and Africa off guard and napping. As a result, there was no strategic plan, no existing road map that had been designed to address a pandemic of such proportion and magnitude. In dealing with the pandemic public health practitioners, doctors, nurses and consultants have applied a cocktail of untested medications and therapy. Consequently, a trial and error approach or learning by doing has been the only approach left to the public health personnel.

Most times, they have had to find innovative solutions in treating the ailment. To do this, they have applied a trial and error approach to treating casualties of the epidemic. Existing results from the number of persons who have died and fallen seriously ill reveals that that older men and women, men and women with pre-existing medical conditions such as hypertension, diabetes, and cancer (just to name a few) are more vulnerable to covid-19. And as such, these vulnerable persons are more likely to get infected, stay ill and are more likely to die from the infection

In Table 1 below is a list of countries, territories, or areas with reported laboratory confirmed COVID 19 cases and death. The results appear to be mind boggling, for instance – number of persons in the world who are infected with the virus stands at 5.6 million, number of persons who have been successfully treated and recovered from the virus is 2.4 million, the number of active cases to date is 2.8 million and total number of persons who have died from the is 350,022. America appears to be the biggest casualty of this epidemic: the death toll is estimated at 100,187. It has almost 1.7 million persons who have been infected by the virus, and 1.1 million active cases. Thus far, the total number of persons tested for covid-19 in America stands at a staggering 15.3 million.

For now, most developing countries in Africa have not experienced the staggering death tolls in America and Europe. The infection and death rate appear modestly low when compared with the figures coming out of America and Europe. For example, the country with the highest death toll is Egypt with an estimated death of 797 persons, Algeria and South Africa took second and third place with a death toll of 617 and 482. A similar result is recorded with regards to testing of infected persons with the virus. South Africa, Egypt and have the highest number of total confirmed cases 23,615, 18,756 and 8,697. In developing countries where there is a shortage of medical tool kits and technology to track infected persons, there are concerns that the number of deaths, and infected with covid-19 might be severely underreported and underestimated and as such it raises questions about the data reflected the true picture of the situation in those countries. If the data is incorrect, and the results are misleading, the virus may have infected more

persons than is reported and if this is the case, there every likelihood that the situation in these countries can get worse really quickly as a result of underestimating the actual number of persons who have been infected by the virus. Also, another area of concern has to do with the testing of the number of effected persons by the virus, if the figures of the number of tested persons are anything to go by, the figures are also quite low, when compared with testing in Europe and America. More importantly, the number of persons tested in a given population is also rather small. For example, in Nigeria, with a population of more than 200 million people, only about 44,458 have been tested. This is not just a Nigerian problem, the issue is similar for other African countries, for instance Egypt has a population of 98 million people has tested only 135,000 persons has a similar problem too.

6.1 Dismal Economic Outlook for Developing Countries in Africa

As the spread of the virus causes severe global economic and social disruptions, the Regional Economic Outlook for Sub-Sahara Africa has projected that Real GDP in Sub-Saharan Africa is estimated to contract by -1.6% in 2020. The severe downward revisions are a reflection of the spread of corona virus and decline in commodity prices. In addition, the government in developing countries imposed policy measures to contain the spread of the virus, this too, has also contributed to downward revisions. As Fig. 1 reveals, oil prices in the world market have plunged by an estimated 45%, reaching 17-year low, reflecting a slump in global growth. The fall in commodity prices is not limited to oil, most other commodity prices have also seen a significant decline as can be seen in Fig. 2, with only one exception in precious metals, gold that has benefited from the pandemic.

Table 2 presents the data on the following real GDP growth rates, government debt as a percentage of GDP and current account balance as a percentage of GDP for the year 2019, and 2020 for developing countries in Africa. As expected, the pandemic has caused significant revisions in the growth rate for countries in Sub-Saharan Africa. This gives a bleak economic

Table 1. Countries, Territories, or Areas with Reported laboratory confirmed COVID 19 cases and death

Reporting country	Total Cases Confirmed	New Cases	Total Deaths	New Deaths	Active Cases	Total Recovered	Total Tests	Tests/ 1M Pop
World	5643983	59716	2408444	2409	2885517	2408444		
USA	1715297	9071	100187	382	1146046	469064	15368643	46457
Italy	230555	397	32955	78	52942	144658	3539927	58540
Spain	283339	859	27117	280	59264	196958	3556567	76071
United Kingdom	265227	4043	37408	134	NA	NA	54256	7386
Germany	181203	414	8470	42	10733	162000	395059	42922
China	82992	7	4634	0	81	78277	NA	NA
South Africa	23615	NA	481	NA	11217	11917	596777	10075
Algeria	8697	194	617	8	3162	4918	NA	NA
Burkina Faso	**832**	NA	52	NA	672	108	NA	NA
Senegal	3161	31	36	1	1560	1565	35016	2097
Mauritius	334	NA	10	NA	2	322	104639	82292
Rwanda	339	3	NA	NA	95	244	60443	4679
Ghana	6964	156	10	NA	4835	2097	197194	6360
Nigeria	8068	NA	233	NA	5524	2311	44458	216
Kenya	1348	62	52	NA	891	405	64264	1198
Ethiopia	701	46	6	1	528	167	87264	761
Benin	208	17	NA	NA	118	87	28179	2331
Botswana	35	NA	1	NA	14	20	17631	7513
Egypt	18756	789	797	14	12932	5021	135000	1322
Niger	951	NA	62	NA	103	786	13506	4693
Tanzania	509	NA	21	NA	305	183	NA	NA

Source: World Health Organization (2020): Coronavirus disease 2019 Situation Report 72

US oil prices turn negative

Price per barrel of WTI

Source: Bloomberg, 20 April 2020, 20:15 GMT   BBC

Fig. 1. Effect of corona virus on commodity prices
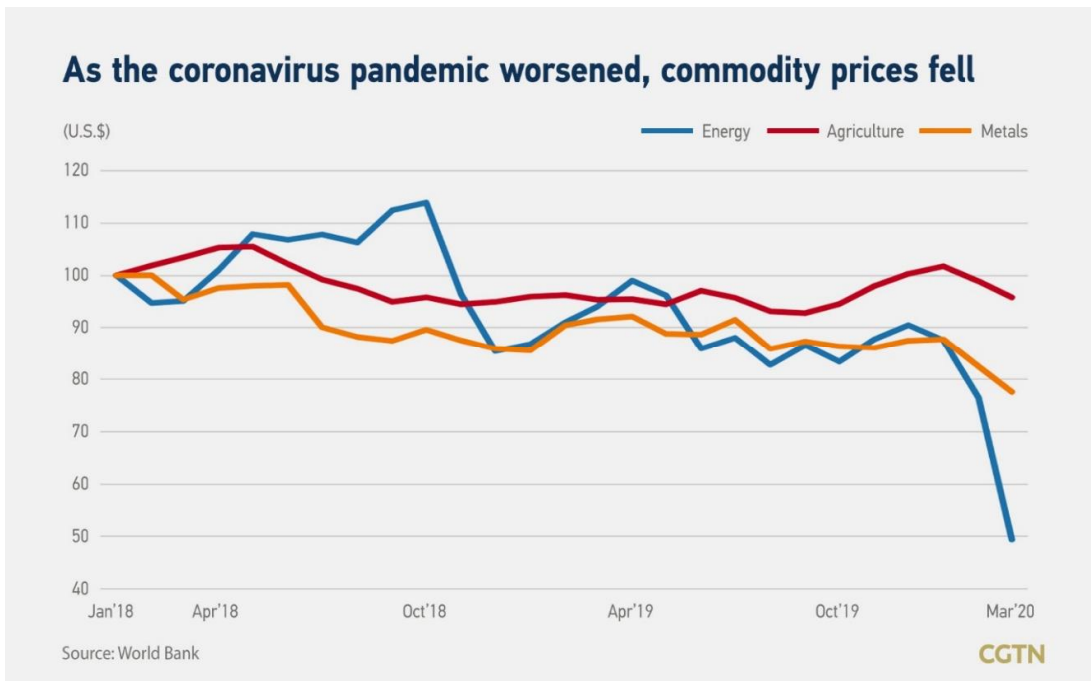

Fig. 2. Effect of corona virus on commodity prices in developing countries

In 2020, 17 countries in Sub-Saharan Africa are predicted to experience negative economic growth rates. This number is huge, the previous year, only 15% of the countries listed in the Table 2 had negative growth rates. This figure has reached 54% in 2020, an increased by 38%. An

in-depth examination of the countries with negative growth rate reveals that most of the oil exporting countries such as Nigeria, Angola, Chad, Equatorial Guinea, Gabon, South Sudan and Cameroon all had negative growth rates in 2020 with the exception of Ghana.

Non-resource intensive countries such as Gambia and Mauritius are expected to have a better growth rate than oil exporting countries and resource intense countries such as Nigeria, Gabon and South Africa. Despite the difficult economic environment caused by the corona virus, some countries were able to attain positive growth rates in 2020: countries such as Benin, Senegal and Rwanda outperformed the other countries in Sub-Saharan Africa with a growth rate of 4.5%, 3% and 3.5% respectively. A significant dip in the growth rate from previous year, where the growth rate for Benin, Senegal and Rwanda was 6.1%, 5.3% and 10.1%.

Economic growth rates are intricately connected to the levels of government debt, economic theory postulate an inverse relationship between economic growth and debt. It suggests that there are a number of channels in which increasing levels of public debt can disrupt economic growth. An increase in government debt will ensure that a significant portion of a country's capital will be used to service debt and there will be no capital to spend on local investments and domestic infrastructure. Consequently, increasing levels of government debt for developing countries can reduce productivity, reduce earnings and income and has the ability to crowd out foreign investments. Thus, reducing economic growth.

As the results in the Table 2 indicate, the government debt as a percentage gross domestic product for countries in Sub-Saharan Africa is revealing – with increasing levels of debt resulting from the 2009 global financial crisis. As is seen, Sub-Saharan Africa is yet to recover from massive debts as a result of fall in commodity prices during that period – to worsen matters there is every likelihood that the corona virus pandemic would further exacerbate the debt burden of developing countries in Africa.

As the bleak results of the debt profile reveal, in the year 2020, 22 countries in Sub-Saharan

Africa have a government debt greater than 45% of GDP. This is a significant increase from the figures in 2019. As earlier stated, debt profile of countries in Sub-Saharan Africa is poor and for 2019; 51.6% of countries in Sub-Saharan Africa had a government debt greater than 45%. This figure worsened in 2020, the IMF regional outlook projections show that the figure for government debt greater 45% of GDP rose to 70.9%.: a modest increase of 19.3%.

A meticulous examination of the debt profile of countries in Sub-Saharan African shows that three countries have the worst debt profile in 2019 and 2020, Angola, Mozambique and Zambia are three countries whose government debt to GDP exceeds 85% of GDP in 2019 and for 2020, exceeds a 100% of GDP. Furthermore, it does appear that oil exporting and resource intense countries such as Gambia, Sierra Leone and South Africa tend to have poor debt profiles. The countries mentioned, have government debt profiles greater than 75% of GDP. Such shocking levels of debt, may have serious economic consequences for such countries.

While in economic theory, there is no direct linkage between debt and current account deficit, high levels of debts, and persistent current account deficit is a sign of an economy in distress. Both economic indicators can help in evaluating the state of any economy, if an economy is prosperous and robust – it is most likely to have low debt profile and a current account surplus. If a country is in distress, and is heading towards an economy recession, it is more likely to have high debt levels and current account deficits.

A cursory glance at the current account balance for countries in Sub-Saharan Africa presents a very sad economic tale. As earlier stated, the 2009 global financial crisis resulted in crash in commodity prices caused an economic crisis for many Sub-Saharan countries, as sharp decline in revenues from commodity prices sent negative economic shocks that worsened their current account balances. For instance, in 2019; 29 Sub-Saharan countries listed in Table 2 had a negative current account deficit. When converted in to percentages terms, it translates into 93.5% of the countries in the region.

Table 2. Real GDP, government debt as a percentage of gdp, current account as a percentage of gdp and consumer prices indices

	2019	2020	2019	2020	2019	2020	2019	2020
Angola	-1.5	-1.4	109.8	132.2	2.9	-6.7	17.1	20.7
Benin	6.4	4.5	39.4	39.8	-5.1	-5.3	-0.9	-0.8
Botswana	3.0	-5.4	14.8	16.2	-5	-2	2.8	2.1
Burkina Faso	5.7	2.0	40.0	43.0	-4.4	-4.3	-3.2	3.2
Cameroon	3.7	-1.2	40.9	45.2	3	5	2.5	2.8
Chad	3.0	-0.2	44.2	47.2	-4.9	-12.9	-1.0	2.0
Cote d Ivoire	6.9	2.7	37.8	42.1	-2.7	-3.3	0.8	1.2
Equatorial Guinea	-6.1	-5.5	41.4	54.2	-5	-10	0.6	1.7
Ethiopia	9.0	3.2	57.6	56.9	-5.3	-5.3	15.4	15.8
Gabon	3.4	-1.2	58.8	67.2	-0.8	-8.4	2.0	3.0
Gambia	6.0	2.5	82.5	80.3	-5.4	-9.8	7.1	6.7
Ghana	6.5	1.5	63.2	67.6	-2.7	-4.5	7.2	9.7
Lesotho	1.2	-5.2	48.5	51.0	-8.3	6.9	5.2	3.6
Liberia	-2.5	-2.5	55.4	62.8	-22.3	-18.7	27.0	13.8
Madagascar	4.8	0.4	38.3	41.0	-2.5	-2.9	5.6	5.5
Malawi	4.5	1.0	63	68	-17.2	-17.9	9.4	14.0
Mali	5.1	1.5	40	44	-4.2	-3.7	-0.6	0.6
Mozambique	2.2	2.2	109	125	-42.2	-68.8	2.8	5.2
Namibia	-1.4	-2.5	53	66	-2.3	-0.4	3.7	2.4
Niger	5.8	1.0	42	47	-13.2	-13.5	-2.5	4.4
Nigeria	2.2	-3.4	29.4	35.3	-3.8	-3.3	11.4	13.4
Rwanda	10.1	3.5	38.6	55.1	-9.2	-16.2	2.4	6.9
Senegal	5.3	3.0	64.2	67.4	-9.1	-11.3	1.0	2.0
Seychelles	3.9	-10.8	55.3	77.1	-16.7	-27.8	1.8	4.5
Sierra Leone	5.1	-2.3	67.2	72.9	-13.9	-14.3	14.8	15.4
South Africa	0.2	-5.8	62.2	77.4	-3.0	-2.0	4.1	2.4
South Sudan	11.3	4.9	41.8	35.3	-2.5	-2.4	51.2	8.1
Tanzania	6.3	2.0	38.1	40.0	-3.2	-3.8	3.4	3.9
Togo	5.3	1.0	70.9	69.1	-4.3	-5.5	0.7	2.7
Uganda	4.9	3.5	40.0	46.3	-9.5	-9.7	2.9	3.9
Zambia	1.5	-3.5	85.7	109.9	-1.0	-2.0	9.8	13.4
Zimbabwe	-8.3	-7.4	11.0	3.2	1.1	-1.9	255.3	319.0
Sub-Saharan Africa	3.1	-1.6	50.1	55.9	-4.0	-4.7	9.3	7.6

Source: IMF Regional Outlook for Sub-Saharan Africa (2020)

In 2020, the situation is expected to get worst, for some countries in the region as their current account deficits deteriorated. And for some others, they recorded modest improvement in their current account balance. For example, in 2020; Mozambique, Rwanda and Seychelles saw a decline in their current account deficits by the following percentage points 26.6%, 7% and 11.1%. Fortunately, some countries recorded modest improvement in their current account balance, they include: Lesotho, Liberia and Cameroon whose improvement in percentage points is 15%, 3.6% and 3%. These countries, appear to be an exception, rather than the norm.

The consequence of having persistent current account deficit in Sub-Saharan countries should not be disregarded. As continued current account deficits could result in foreign exchange crisis and massive capital outflows that results in devaluation of the local currencies for countries in the region. Thus, devaluation of the domestic currencies can result in rising levels of inflation, which in turn, would lead to increase in inequality, poverty and unemployment. In the long run, countries with large current account deficit remain uncompetitive in the global market space.

As economic theory suggests, there is a positive relationship between inflation and current account deficits. Rising levels of inflations are most likely to result in deteriorating current account balances. The data on inflation for Sub-Saharan countries can be seen in Table 2. The general picture on inflation is much better than

the current account balances. For instance, in 2019 only 22.5% of the countries in the region suffered from double digit inflation. However, on closer inspection it appears that 16% of the countries in the region are experiencing deflationary trend. The following countries have recorded the worst rates in inflation in 2019; Zimbabwe, South Sudan and Liberia – whose inflation figures were 255.3%, 51.2% and 27%. While Senegal, Seychelles, and Rwanda have the lowest rates of inflation in the region 1%, 1.8% and 2.4%. To curb the devastating effect of the lock down measures imposed by government in Sub-Saharan Africa, all of the countries in the region initiated a massive fiscal stimulus package intended to give relief to many of the stay at home persons, including the small and medium scale enterprises. However, it is yet to be seen, how the massive expansion of money supply will play out in region.

6.1.1 Developing Countries Fiscal and Monetary Policy Response to Corona Virus

To slow the spread of the corona virus, most countries in Sub-Saharan Africa employed a combination of fiscal policy and monetary policy mix. Initial policy focused on containing the spread of the virus and it was restrictive in nature. As can be seen in Table 3, South Africa, Ghana and Nigeria adopted similar restrictive policy measures to mitigate the spread of the virus. Travel bans, closure of air ports, prohibition of gathering in public space appear to be common to all three countries in question. However, the difference lies in the details. For example, South Africa introduced mobile technology to trace and track infected persons. Ghanaian government recommend mandatory self-quarantine measure for Ghanaian residents.

The border closures, prohibition of public gathering, closure of religious institutions, educational institutions, and social distancing with have negative effects on whole economy, and cause the economic machine of Sub-Saharan countries to grind to a halt. To avert catastrophic economic disaster, government in the region, as a collective response should all implement some fiscal policy stimulus in their countries. For example, the South African government is assisting workers and companies through the unemployment insurance fund and is supporting critical businesses with an estimated $160 million for businesses and vulnerable firms

vulnerable firms that are critical to the country's response and recovery from corona virus.

The Ghanaian and Nigerian governments also employ similar fiscal stimulus packages. The government of Ghana committed the sum of $100 million dollars to prepare the necessary facilities to respond to the spread of the virus. In addition, a $200 million dollar was set aside under the Coronavirus Alleviation Programme to bail out selected industries who would be severely affected by the pandemic. In the case of Nigeria, a fiscal stimulus package of $1.4 billon was approved to do the following: provide relief for tax payers, incentivize employers, and to equip the public health care sector with the necessary facilities to mitigate the spread of the virus. The monetary policy mix employed by South Africa, Ghana and Nigeria involved the cutting of interest rates, South African reduced interest rates from 6.25% to 5.25%. The Bank of Ghana also reduced interest rates by lowering Monetary Policy Rate by 150 basis points to 14.5%. For Nigeria, interest rates were also reduced from 9 to 5 percent per annum for 1 year effective. The central bank of Nigeria went a step further to provide intervention funds of $139 million dollars that will be injected into the banking system and an additional N100 billion to support the health sector.

6.2 Implication of the Findings

The corona virus pandemic has questioned has obviously revealed how a sociological health problem could escalate into an economic problem of monumental proportions. With governments in developing countries poorly prepared to deal with the consequence of such a pandemic. The role of government in the society has been brought to the fore front, as individuals on their own do not have the resources and are incapable of dealing with the pandemic. In neoliberalist thinking, government should be placed at the side lines; as some sort of referee to allow for ferocious market competition with the state making room for private corporation to act as the drivers of the economic enterprise. Sadly, the wisdom of Keynesian economics was questioned and has been replaced with Neoliberal thinking of Nobel prize-winning economists such as Milton Friedman and Fredrich Hayek. They succeeded in convincing us that we can be self-sufficient, and our primary responsibility is to ourselves and family and that it is possible to secure our individual wellbeing by neglecting the wellbeing of others.

Table 3. Policy Responses in selected African countries to contain the spread of the virus

Country	Measures	Fiscal Policy	Monetary Policy
South Africa	The government measures for curbing the infection includes social distancing, travel bans on visitors from high-risk countries and quarantine for nationals returning from those countries, screening at ports of entry, school closures, screening visits to homes, and introduction of mobile technology to track and trace contacts of those infected.	The government is assisting companies and workers facing distress through the Unemployment Insurance Fund (UIF) and special programs from the Industrial Development Corporation. Additional funds are being made available for the health response to Covid-19, workers with an income below a certain threshold will receive a small tax subsidy during the next four months.	The central bank (SARB) On March 20, it announced measures to ease liquidity conditions by: (i) increasing the number of repo auctions to two to provide intraday liquidity support to clearing banks at the policy rate; (ii) reducing the upper and lower limits of the standing facility to lend at repo-rate and borrow at repo-rate less 200 bps; and (iii) raising the size of the main weekly refinancing operations as needed.
Ghana	The government adopted sweeping social distancing measures and travel restrictions to avert an outbreak, including (i) suspension of all public gatherings exceeding 25 people for four weeks; (ii) closure of all universities and schools until further notice; and (iii) mandatory 14-day self-quarantine for any Ghanaian resident who has been to a country with at least 200 confirmed cases of COVID-19, within the last 14 days. Ghana closed all its borders to travellers. On March 30, a partial lockdown of major urban areas was implemented.	The government committed US$100 million to support preparedness and response, and about US$210 million under its Coronavirus Alleviation Programme to the promotion of selected industries (e.g., pharmaceutical sector supplying COVID-19 drugs and equipment), the support of SMEs and employment, and the creation of guarantees and first-loss instruments.	The Monetary Policy Committee (MPC) cut the policy rate cut by 150 basis points to 14.5 percent on March 18, and announced several measures to mitigate the impact of the pandemic shock, including lowering the primary reserve requirement from 10 to 8 percent, lowering the capital conservation buffer from 3 to 1.5 percent, revising provisioning and classification rules for specific loan categories, and steps to facilitate and lower the cost of mobile payments.
Nigeria	A range of measures have been implemented to contain the spread of the virus, including closure of international airports, public and private schools, universities, stores and markets, and suspension of public gatherings. A "lockdown" was declared in Lagos, Abuja and Ogun states. Work at home is also encouraged in several states and government institutions while isolation	Contingency funds of $20.7 million have been released to Nigeria's Centre for Disease Control for purchasing more testing kits, opening isolation centres and training medical personnel. Grant of $28 million was released to the Lagos State to increase its capacity to contain the	The Central Bank of Nigeria (CBN) maintained its current monetary policy rate in March but introduced additional measures, including: (i) reducing interest rates on all applicable CBN interventions from 9 to 5 percent and introducing a one year moratorium on CBN intervention facilities; (ii) creating $139 million targeted credit facility; and (iii) liquidity injection

Country	Measures	Fiscal Policy	Monetary Policy
	centres are being expanded in Lagos state.	outbreak. A fiscal stimulus package in the form of a COVID-19 intervention fund of $1.4 billion has been approved to support healthcare facilities, provide relief for taxpayers, and incentivize employers to retain and recruit staff during the downturn.	of 3.6 trillion (2.4 percent of GDP) into the banking system, including N100 billion to support the health sector, N2 trillion to the manufacturing sector, and N1.5 trillion to the real sector to impacted industries.

Source: https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19: Accessed on 15th of May, 2020) who had return from countries with at least 200 confirmed cases of corona virus. In Nigeria, the measures appeared to be more drastic as a lockdown was initiated in 3 states, Lagos, Abuja and Ogun

The coronavirus pandemic has brought to the fore the importance and role of government in responding and mitigating a pandemic of this magnitude. Obviously, the epidemic has uncovered some deeper truths, that when society is left to rot – as neoliberalism philosophy espouses, it can be the very thing that threatens our human existence and exposes us to a calamity of cataclysmic proportions. If there is one thing we have learned and can take away from this pandemic, is that there are some problems that individuals do not have the capacity of resolving on their own, that government matters and is important in addressing complex and difficult problems like this epidemic. It has taken a calamitous global epidemic to remind us that; it is only other human beings, strong social structures and robust democratic institutions that have the capacity to provide us with some sense of security that we as human beings require.

The irony of all this, is that we had made this realization at precise moment where lockdown, and social distancing measures have forced us to retreat from social interactions. More frightening is the fact that developing countries in Africa do not have the resources nor the capacity to deal with such a pandemic, the neglect in the public health sector reveals a sector with inadequate healthcare infrastructure that lacks the health resources to tackle such a pandemic and as such, it would be in the best interest of the government to take the necessary measures to ensure that the epidemic is contained.

If the spread of the pandemic is not contained, there is every likelihood that in the case of developing countries were a significant number of persons live on less than one dollar a day, this epidemic is will increase the inequality, worsen poverty and thus increase global poverty levels. In so doing, rob developing countries of the strides that have been attained in reducing the levels of inequality and poverty in the last decade. With rises in inequality and poverty, political stability and democratic institution in developing countries might be threatened. This could lead to reduced capital underutilization, labour market participation, lower human capital accumulation, and long-term enormous decline in economic productivity.

7. CONCLUSION

The research has brought to the fore some of the socio-economic implications of corona virus in developing countries in Sub-Saharan Africa. The socio-economic implications of the outbreak of the virus are in two folds. The first was the health shock from the damage done by the spread of the virus led to increase in morbidity and mortality that triggered a health care crisis that spread from the developed world to the developing world. The second economic shock was the severe mitigation and containment measures imposed by government in developed and developing countries to disrupt, limit and halt the spread of the virus. It was the adoption of the second set of measures that plummeted the global economy into an unanticipated and unexpected economic recession [46].

The measures developing countries in Sub-Saharan adopted to enforce social distancing, self-isolation are likely to imperil the livelihood of a large number of vulnerable persons in the region. Given the fact that social safety net in the region is limited and people are likely to suffer untold hardship. Oil exporting countries, countries heavily dependent on tourism/hospitality in Sub-Saharan Africa are likely going to bare the heavier economic blow from the epidemic. African oil and gas exporting countries did not anticipate or foresee this disaster. The revenues earned from hydrocarbons has plummeted as a result these countries are likely to run large budget deficits.

Oil price instability for oil exporting nations like Nigeria and Angola will negatively influence economic growth and place a lot of pressure on exchange rates. Governments in these countries are mostly likely going to devalue their local currencies as a counter of the shortfall from declining earnings from oil. And if this is insufficient, there is the tendency for such countries to increase the already heavy debt burden. To make matters worse, the devaluation of the domestic currency will sharply reduce stock market valuation, weaken the current account balance, and intensify inequality and poverty.

In a nutshell, the magnitude of the coronavirus pandemic will result in a public health care crisis and an economic crisis for developing countries, while the palliatives and measures used to cushion the effect of the epidemic are a welcome development. The bitter truth is that the monumental mortality and morbidity resulting from the crisis will leave long lasting sociological and economic implications that will last for decades [67]. The effect of the pandemic is still

crushing developing countries with no end in sight, no vaccines, no medications to cure the virus. The world is going through a very difficult and trying time.

This research has just shed some light on some of the issues, it is obvious that a lot of research on the coronavirus needs to be done, and some directions for the research could look at the implication of the lockdown initiatives imposed by governments in developing countries on educational institutions, religious institutions, and public parks to disrupt the spread of the virus. Some other areas that could be looked at include the implication of staying indoor for 8 weeks and what were some of the socio-economic consequences of families staying at home for such an extend period of time?

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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