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THE SOCIOECONOMIC IMPACTS AND IMPLICATIONS OF THE COVID-19 PANDEMIC AND OMICRON VARIANT: THE CASE OF SUDAN

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ABSTRACT: *Viruses mutate over time, and SARS-CoV-2 is no exception. Mutations in viruses occur naturally, and the more they circulate, the more likely they are to mutate. This study mainly focuses on assessing the socio-economic effects and implications of the COVID-19 pandemic, and the newely emerged Omicron variant in Sudan. A qualitative research approach was adopted in which a combination of secondary and primary data were collected. In this regard, a systematic literature review of peer-reviewed articles was carried out to collect the secondary data. While semi-structured personal interviews were conducted with key stakeholders. Furthermore, purposive/judgmental sampling was utilized to select interviewees, and their responses were analyzed using thematic content analysis. The findings of this study showed that Sudan's economy was already stressed before the occurrence of the COVID-19 pandemic, due to currency crises, high inflation rates, and the inability of the authorities to provide subsidies. Moreover, the outbreak of coronavirus and subsequent lockdown ,in the first wave, had further worsened the socio-economic situation. The country suffered due to a sharp downfall in productivity, supply, and demand. All of which had adversely affected business sustainability, consumers' preference and consumption, remittance inflows, and resulted in mass poverty in rural areas. Also, the emergence of Omicron variant have placed the global health systems on high alert. Therefore,this study proposes a framework to extend the research on the macro and microeconomic factors, that shape up the socioeconomic effects of the COVID-19 pandemic and Omicron variant. Furthermore, it recommended that Sudan's poliy makers must reinforce and rebuild the health system as quickly as possible. To aid the country in recovering from the COVID-19 pandemic and any other catastrophic epidemic. In addition, the government must reform rules and invest in public health, economic stimulus, and social safety nets.*

KEYWORDS: COVID-19, omicron variant, socioeconomic, business sustainability, supply, demand

INTRODUCTION

The appearance and outbreak of coronavirus named SARS-CoV-2 causing COVID-19 disease, has caused a great pressure worldwide (Ogunleye et al., 2020,Ngepah, 2021, Lanchimba, et al.,2020). This is due to the quick spread of the virus among all continents occurring in forming several peaks, waves, and a variant (Ogunleye et al., 2020).

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In this context, the first positive case of coronavirus was reported in Wuhan, China on December 30, 2019, in which the Chinese Wuhan local health authority has issued an epidemiological alert subsequent to the first documented case (Huang et al. 2020, Ngepah, 2021). Incidentally, the virus quickly propagated to other countries and became a primary global threat (Stojkoski et al., 2020). As a result, on January 30, 2020 the World Health Organization (WHO) has declared the outbreak of COVID-19 in China as a public health emergency of international concern (Oh et al., 2020 Novel, C. P. E. R. E. 2020). Subsequently, on March 11, 2020 it was stated as a universal pandemic due to its high infectivity and the vast death rates (Ngepah, 2021, Cucinotta and Vanelli ,2020,J. Mou, 2020,Oh et al., 2020, Bedford, J., et, al, 2020).

As a result, these have raised the need for preventive measures in order to safe nations and control the outbreak of the diseases. Thus, governments began to set restrictive measures to control the spread of COVID-19. Among the most important measures were social distance and isolation between population members, curfews, and partial or full lockdown of countries (J. Mou, 2020). Though, the degree of the spread of COVID-19 among nations was different. At the initial stages of the pandemic, the spread rate was very high within the European region, moving gradually to other nations. In this regard, the flow of COVID-19 in Africa was very slow during the first wave of the pandemic, after that cases started to increase rapidly (Luz Yolanda Toro Suarez, 2020).

The subsequent effects of the first wave were very huge. As it has adversely affected the global economy, social life and day-to-day activities of all populations. In this regard, the pandemic has led to global socioeconomic disruption which have resulted in; Workplace closures that have interrupted supply chains and lowered productivity, decline in the international trade i.e. exports and imports between nations. (Islam, Md.et,al. 2020,J.Mou,2020). Furthermore, the majority of business started to pursue their activities online. Thus, some people have lost their jobs, while others have suffered from income decline due to lockdowns and lower productivity (Islam, Md.et,al. 2020).

In this context, it is well articulated in literature that COVID-19 pandemic has significantly affected developing countries than developed economies due to the instability of their economies, health systems and close ties in terms of ; Trade, investments and finance, education and security cooperation with other countries (Luz Yolanda Toro Suarez, 2020, Lanchimba, et al., 2020). In late 2020, countries started to lift lockdowns and softening quatrain restrictions which were imposed among nations, in order to energize their economies. As a result, citizens started to purse their normal activities and lifestyle. Subsequently, number of cases started to increase due to socialization and regular contact among people, all of which have contributed to the announcement of the second wave and the third wave respectively. In this regard, the effects of the second and third waves were considerably different among countries (Asia, 2020).

On 26 November 2021, the European Center for Diseases Prevention and Control (ECDPC), classified a SARS-CoV-2 variant belonging to Pango lineage B.1.1.529 as a variant of concern

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(VOC), due to concerns regarding immune escape and potentially increased transmissibility compared to the Delta variant. WHO has also classified the variant as a VOC, and assigned it the label Omicron named after the 15th letter of the Greek alphabet.The novel SARS-CoV-2 variant Omicron was first detected in samples collected on 11 November 2021 in Botswana, and subsequently in samples collected from 14 November and onward in South Africa. The number of countries reporting the Omicron VOC cases continues to increase globally, with a total of 352 confirmed cases reported by 27 countries on 1 December 2021. To date, there have been no severe cases or deaths reported globally (ECDPC,2021,WHO,2021).

The COVID-19 and Omicron Variant in Sudan

On 13 March 2020, the first coronavirus case was reported. It was a man who had spent a week in the United Arab Emirates before arriving in Khartoum. He died just a day before the case was officially confirmed (Kamil, N. A. A., et al.,2021, Elhadi, Y. A. M., et al., 2020). As a result, authorities acted quickly in response to the first incidence.Numerous preventive measures were implemented, including; Hand hygiene practices, curfews, social distancing, and isolation to prevent the spread of the virus (Kamil, N. A. A., et al.,2021, Kunna, E.,2020). Despite these, many Sudanese do not believe the virus is present and had spread throughout the country. Hence, the number of suspected and confirmed cases were rapidly increasing, many were unknown, and not all of them were being tested as well as it was very difficult to trace (Elmadhoun, W.,et al.., 2020).

As a result, during the initial wave of the pandemic, the authorities implemented a health emergency law, and on 18 April 2020, they announced a complete lockdown of Khartoum (Elhadi,Y. A. M.,et al., 2020)). Furthermore, from April to September 2020, the country announced the complete shutdown of educational institutions, including public and private universities, as well as schools (Kamil, N. A. A., et al. 2021).

In this context, the Federal Ministry of Health's Epidemiology and Emergency Department began issuing a daily statistics update on the worldwide and local situation of COVID-19, including the number of confirmed cases, suspected cases, and deaths. In addition to introducing the new pandemic-related legislation, plans, and processes (Elmadhoun et al., 2020).

Overall, COVID- 19 cases in Sudan rose swiftly and peaked in early June 2020, before declining to low levels of transmission by early September 2020. (Watson et al., 2020). As a result, the government began to relax the curfews and set restrictions. However, because of the huge increase in instances since November 2020, early symptoms of a second wave have been seen (Watson,O.J.,et al.2020). Though authorities did not take comprehensive efforts to counteract the second wave, they did warn citizens to keep their social distance and isolation. Because the priority was to re-energize the economy in the aftermath of the first wave lockdown. Following these, the Epidemiology and Emergency Department of the Federal Ministry of Health (FMOH), alert Sudanese citizens that a third wave began in March 2021, owing to a steady increase in cases.

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On the other hand, Sudanese authorities say that one case of infection with the new mutation has been reported by Khartoum International Airport, regarding a passenger from South Africa. As a result, the health authorities in Sudan have issued a decision banning entry to travellers arriving from six Southern African countries, due to the outbreak of the new 'Omicron' mutation of COVID-19 that was identified in South Africa (Dabang,2021).

Thus, the general objective of this study is to assess the socio-economic situation in Sudan. Specifically to;

- Examine the socio-economic situation before the outbreak of the COVID-19 pandemic.
- Explore the socioeconomic consequences of the COVID-19 epidemic and Omicron variant.
- Identify the overall social implications of the COVID-19 pandemic and Omicron variant.

LITERATURE REVIEW & THEORETICAL FRAMEWORK

The COVID-19 Omicron variant have attracted the attention of public health community worldwide. In this regard, the global public health community applauds scientists in South Africa, and other countries which have reported the new VOC for the speed with which they have identified, sequenced and characterized SARS-CoV-2 strains, and their transparency and openness in reporting quickly to WHO (WHO 2021c). Their SARS-CoV-2 sequencing work has been exemplar (Wilkinson et al. 2021; Tao et al. 2021). As of November 28, 2021, 17:00 CET, 127 viral genomes (VOC Omicron GR/484A) have been entered into the Global Initiative on Sharing all Influenza databases (GSAID 2021). Still several studies are going on to investigate the subsequent effects of the COVID-19 Omicron variant .

On another note, the existing literature indicates that several studies have been conducted to assess the social and economic effects of the COVID-19 pandemic worldwide (e.g. Ngepah, N., 2021, Islam, Md.et,al.2020, Mou, J., 2020, Oh et, al., 2020, Millard, J., 2020, Martin,A.,et al.,2020). These studies have assessed such an issue in different ways. Specifically, some studies have assessed the socio-economic impacts or implications of the COVID-19 pandemic on certain regions, others focused only on assessing either the economic or social impacts of the pandemic, as well as some studies, have followed a broader perspective by examining the impact of COVID-19 on the global economy. In this context, Ngepah, N. (2021), investigated the socioeconomic aspects that lead to COVID-19 mortality worldwide. COVID-19 data were taken from published articles, while the socioeconomic data came from World Bank World Development Indices. To analyze the data, the researchers used the "Poisson pseudo-maximum-likelihood (PPML)" and the "Quantile Regression Techniques." The findings revealed that a lack of healthcare infrastructure is one of the major causes of large-scale mortality. Due to insufficient testing tubs, beds, and the readiness of hospitals for such a pandemic. Specifically, hospitals were overwhelmed even it was difficult to manage cases, all of these have resulted in a high mortality rate worldwide.

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While, Islam, Md.et al. (2020), examined the potential economic repercussions of the COVID-19 pandemic on South Asian economies using a systematic review method (cause-effect framework). They discovered that the COVID-19 had affected main sectors in the economies of South Asia. The pandemic has harmed the economy and vital industries like agriculture, services, and manufacturing. They also said the pandemic's effects will not be restricted to the short term but would have long-term consequences. Similarly, Mou, J. (2020), examined COVID-19's impact on the global economy, with a particular focus on China, using a qualitative approach. He stated that the pandemic has had a significant effect on China, and has spread around the globe. He also demonstrated how protective measures such as social distance and isolation prohibit many economic actions. Conversely, Oh, et al. (2020), investigated the COVID-19 patient database to see if socioeconomic factors influence COVID-19 tightness in the South Korean population. According to the findings of this study, living in a lower socioeconomic situation increases the risk of contracting the virus.

On the other hand, the existing literature lack studies which assess the socioeconomic effects of the COVID-19 Omicron variant in Sudan (e.g. Khidir,M.,et al.,2020, Gutbi,S.,et al.,2020, Lucero-Prisno et al., 2020, Elsheikh et al., 2020, Tamomh, A. G., et al., 2020, Salih, M., & Swar, M. 2020a, Elamin, M. M., et al., 2020, Abdulkareem, A. K., et al., 2020, Mehanna, A. A., et al.,2020, Altayb Mousa, et al., 2020, Hassan, M.O.,et al.,2020, Salih, M., & Swar, M,2020b, Watson et al., 2020, Era, C. P., 2020, Ahmed, N., & Saeed, A., 2020, Bereir, A., 2020, Elmadhoun,W.,et al.,2020, Kamil, N. A. A., 2021, Altayb, H. N., et al.2020). These studies have examined the situation of COVID-19 in Sudan and the potential ways to protect human beings life (I. Osman, H., et al.,2020, Elmadhoun,W.,et al.,2020, Altayb, H. N., et al.2020), the impact of COVID-19 on the agriculture sector in the country (Bereir, A., 2020), investigate the readiness of Sudanese doctors for such a pandemic, and the Sudanese/British doctors who passed away due to COVID-19 (Salih, M., & Swar, M,2020b, Abdulkareem, A. K., et al., 2020, Salih, M., & Swar, M. 2020a), explore the barriers of handwashing practices among people in Sudan (Gutbi,S.,et al, 2020), examine the spread of COVID-19 disease among Sudanese community, and the response of the health system to control the pandemic (Khidir,M.,et al.,2020, Tamomh, A. G., et al., 2020), investigate the psychological impact of COVID-19 on health professionals in Sudan, in addition, to identify the factors that affect the intention of Sudanese population to adhere to precautionary measures against COVID-19 (Mehanna, A. A., et al.,2020). Furthermore, Lucero-Prisno, et al., (2020), revealed that "Sudan is witnessing severe drugs, medicines, and medical supplies shortages, which present a major impediment to the provision of emergency healthcare services. All these are backed by worsening economic conditions, inappropriate pricing policy, privatization of the pharmaceutical sector, poor manufacturing, and a weak deregulatory system. In turn, such shortages are of catastrophic impact especially during the current epidemic of COVID-19 where these are salient needs". Taking all these into consideration, there is a dearth of studies exploring the socioeconomic effects of COVID-19 Omicron variant in Sudan. Thus, this study mainly focused on exploring the socio-economic situation in Sudan. Accordingly, the objectives of this study are to answer the following questions:

- How was the socioeconomic situation before the outbreak of the COVID-19 pandemic in Sudan?

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- To what extent does the COVID-19 and Omicron variant affect the socio-economic situation in Sudan?
- What are the overall social implications of the COVID-19 and Omicron variant in Sudan?

1.1 Theoretical Framework

Based on a synthesis of the relevant literature, this study used macro and microeconomic theories to explain the socioeconomic effects of COVID-19 and Omicron variant (Lanchimba, et al.,2020). At a macroeconomic level, the study explained how the epidemic have affected the following macroeconomic factors in Sudan:

- Aggregate Output i.e. Aggregate Supply & Aggregate Demand
- General Price Level
- Employment
- International Money Transfer
- Poverty

At a micro level, the study explained the social implications of the pandemic in Sudan. Specifically, the focus was on assessing how COVID-19 pandemic affected consumers and enterprises, and the potential subsequent effects of Omicron variant. In this regard, it assessed how consumer's preferences and consumption have changed in response to the pandemic. Furthermore, it explored the response of the enterprises i.e. Stay in business and adapt to the pandemic, or left the market, etc. Thus, the theoretical framework of this study is given in figure 1 below.

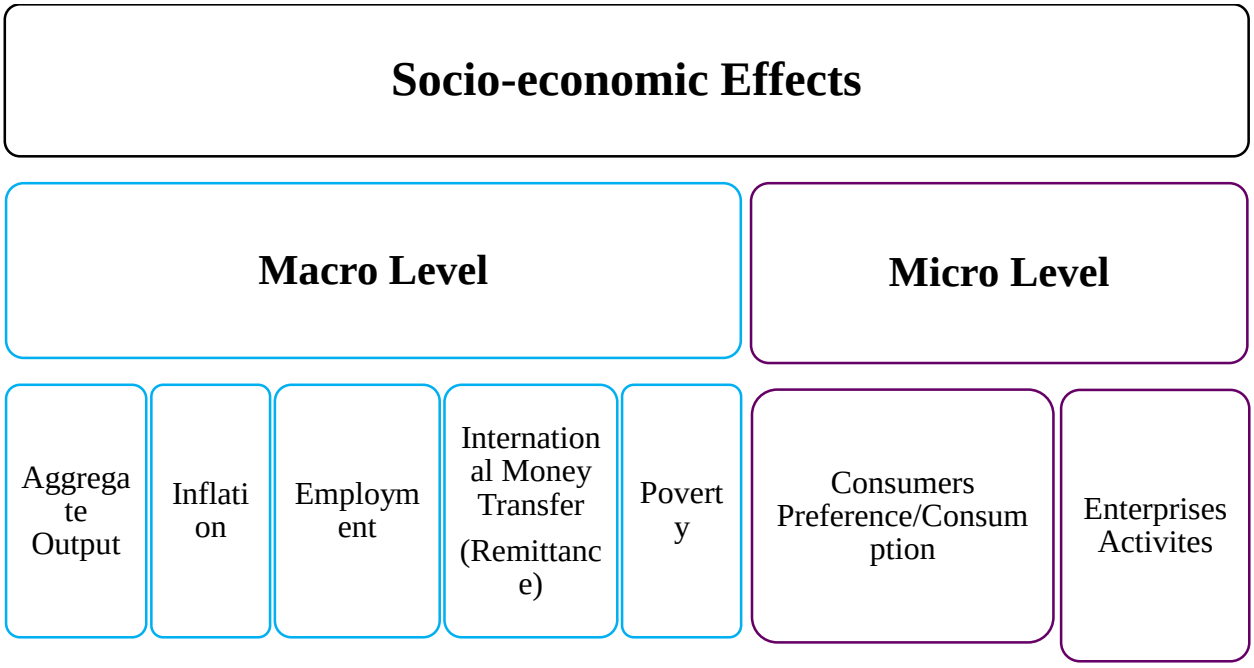

Figure1: Theoretical Framework

Source: Developed By Author

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Certain macro and microeconomic theories have explained supply and demand, inflation, employment, poverty, and consumers' preference. Thus, among the theories that underpin these factors and are related to this study, are displayed below respectively:

"The Classical Theory of Inflation"

Nicolaus Copernicus, a Polish mathematician, proposed this theory in 1571. The economists Milton Friedman and Anna Schwartz popularized it in 1963 after publishing their book "A Monetary History of the United States, 1867-1960." (Milton et, al., 1963). As a result, they stated, "This theory explains how the aggregate price level is determined through the relationship between supply and demand of money, i.e. if the amount of money in an economy doubles, so will price levels." This means that for the same amount of goods and services, the customer will pay twice as much."

"The law of Supply & Demand"

This economic theory was proposed by Adam Smith (1776). It fundamentally explains the relationship between supply and demand. Adam added, "The theory illustrates the relationship between the price of a specific good or product and people's propensity to buy or sell it." When the price of an economic good rises, sellers will often supply more of it, and vice versa when the price falls."

"The Keynesian Theory of Employment and Aggregate Output"

This theory was developed by the economist John Maynard Keynes (1930). Accordingly, John (1930), postulated that "This is a macroeconomic theory of total spending in the economy and its effects on output, employment, and inflation".

"Human Capital Theory"

Schultz, T. W. (1961) and Becker et al popularized the human capital theory (1964). It establishes a theoretical foundation for the positive association between education and poverty reduction, namely that education leads to better job opportunities, higher earnings, and lower poverty, and vice versa (Caine Rolleston, 2009). The theory also explains the phenomenon of a person's lifetime earnings (McKernan,S.M., et al., 2013).

"Theory of Consumer Preferences"

Consumer preference theory was first proposed by economist Paul Samuelson in 1983. It claims that"Consumers' preferences can be shown by what they buy in different situations, notably under diverse income and pricing circumstances, i.e. According to the theory, if a customer buys a certain bundle of products, that bundle is "revealed preferred" to any other bundle that the consumer could afford, given constant income and prices.

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MATERIALS & METHODS

Study Design

An exploratory and qualitative method was used to gain in-depth insights into the subject matter.

Time Horizon

The study covered the following periods:

- 2017-2019 'Pre the outbreak of COVID-19 pandemic in Sudan'.
- March 2020- 2021 'Post the outbreak of COVID19 pandemic in Sudan i.e. first wave, second wave, third wave of the pandemic, and the emergence of Omicron variant.

Target Population

The study targeted key personnel at the Ministry of Finance &Economic Planning and Central Bank of Sudan.

Data Collection

A combination of both secondary and primary data was collected.

Secondary Data

To address the socio-economic, a systematic literature review of peer-reviewed articles was carried out. "ProQuest," "Science Direct," "Web of Science," and "Google Scholar" were used to conduct searches in this regard. "COVID-19", "Omicron variant" "Socioeconomic", "First wave" "Sudan", "Country-specific policies to mitigate COVID-19 Omivron Variant", and "Business during COVID-19" were also used as search phrases. Furthermore, to obtain the best possible information about country-based macro and microeconomic indicators, the websites of various international organizations, such as the World Bank, the International Monetary Fund, and others, were accessed. The search terms, in this case, were "Inflation," "Poverty Level in a Developing Country," GDP," "COVID-19 Paradox," and so on.

Primary Data

Semi-structured personal interviews were conducted with key personnel of each target group, to gain an in-depth understanding of the socioeconomic impacts and implications of COVID-19 and Omicron variant in Sudan.

Sampling Technique & Sample Size Determination

Purposive/judgmental sampling was used to choose respondents who have participated in the interviews. 'Uma Sekaran (2016, p.95) defines such a sampling technique as a "Method in which the desired information is obtained from specific individuals or specific groups on some rational basis". Thus, interviewees from the Ministry of Finance & Economic Planning, and Central Bank of Sudan were selected based on their level of experience, and Knowledge about Sudan's socio-

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economic situation. In this regard, a sample of 30 experts from both financial institutions was selected given the 'Central Limit Theorem'.

Data Analysis

The collected data were analyzed using "Thematic Content Analysis", starting with recording the interviews, transcript reading up to presenting the final results.

RESULTS & DISCUSSION

This paper explores the socio-economic situation in Sudan, pre-and-post COVID-19 pandemic. Thus, this section is further subdivided into three parts. Starting with exploring the economic situation in Sudan pre- the outbreak of the COVID-19 and Omicron variant, moving to assess the impact of COVID-19 on major economic indicators and its social implications in the country. Lastly, the overall social implications of COVID-19 Omicron variant were evaluated.

The Economic Situation in Sudan Pre- the Outbreak of COVID-19 Pandemic

Various interviews were carried out with knowledgeable key personnel from the Ministry of Finance & Economic Planning in Sudan, and the Central Bank of Sudan. All interviewees revealed that the economy of Sudan was already stressed before the occurrence of the COVID-19 and Omicron variant, and it has faced huge collapses in various economic indicators.

Sources of Foreign Currency

The interviewed specialist indicated that in the first ten years of the third millennium, Sudan witnessed economic stability due to oil revenues i.e.75% of the oil represent more than half of Sudan's Government revenue, and 95% of its export. Consequently, this has resulted in political stability within the ruling regime and the country. However, after the secession of South Sudan in January 2011, following a general referendum in which the overwhelming majority of South Sudan voted for the option of secession (Ghandour, D. 2016). The country has lost a major source of its revenue, and as a result, economic and political crises began to emerge.

Consequently, Gold was the first source that could be an alternative to Oil and revive the collapsed Sudanese economy. In this regard, according to a report by the US Geological Survey, Sudan's Gold production has increased dramatically from 7 tons in 2008 to reach 90 tons in 2017 and represented 57% of Sudan's exports in 2017 (Fanack,2020). However, due to the country's weak ability to control Gold production and export, more than half of Gold production was smuggled out of Official channels.

On the other hand, the imposed sanctions by the USA against Sudan since October 1997, have weakened the chances of attracting foreign investment or seeking financing from International financial institutions (Ibrahim & Si, 2020). Accordingly, Ibrahim & Si, (2020), revealed that "The American economic sanctions against Sudan hurt education, health, civil infrastructure,

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technology, finance of family, anti-government sentiment, local business, and social entrepreneurship initiatives" (Malik, M.2015).

Devaluation of Sudanese Pound (SDG) & Inflation Rate

The absence of the three sources of foreign currency (Oil, Gold, Foreign direct Investments, and external financing) along with weak outputs of industrial and agricultural sectors, have contributed to the devaluation and collapse of the Sudanese pound against the US Dollar. Specifically, the matter reached its climax in 2018, as the value of the Sudanese pound has deteriorated through several stages. Thus, figure 2 below, reflects the devaluation of the Sudanese pound against the US Dollar throughout 2018 (Bank rate vs. Parallel market).

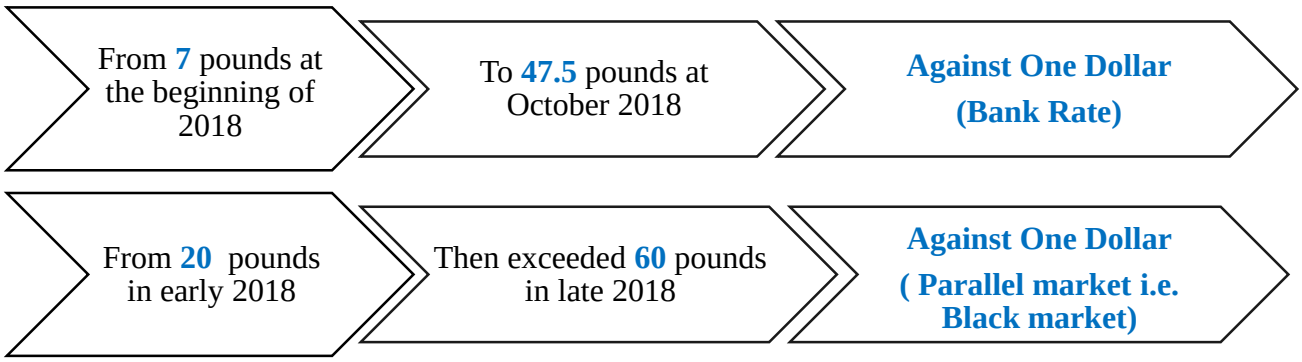

Figure 2: Devaluation of SDG against One Dollar in 2018

Source: Aljazeera 2018- Prepared by author

Furthermore, Sudan's inflation also jumped to 68.94% in November 2018 (Xinhua, 2018). Thus, all these critical economic conditions were among the main reasons behind the outbreak of the December 2018 revolution, which succeeded in toppling the Former President in April 2019. As a result, Sudan has interned into a transitional period.

Transitional Period & Inflation Rate

After more than a year of the formation of the transitional government, the economic situation remains in a state of constant deterioration. In this regard, according to the Central Bureau of Statistics, "The annual inflation rate reached 114.3 % in May 2020, compared to 98.8% in April" (SARAF OMRA, 2020). Figure 3 below, reflects the huge increase in inflation rate throughout 2020.

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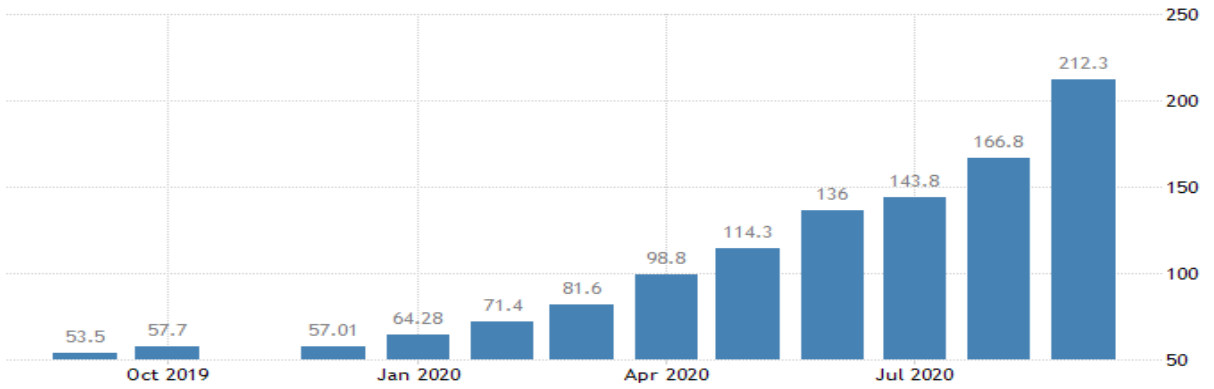

Figure 3: Inflation Rate throughout 2020

Source: Trading economics: Central Bureau of Statistics

The high inflation rate throughout 2020 has doubled commodity prices all through the year, as well as the price of the dollar in the parallel market jumped from over 60 Sudanese Pounds per dollar in December 2018, to reach 146 Sudanese pounds per dollar in June 2020 (Gerrit Kurtz, 2020). In addition to the crises of fuel, bread, increase in transport fares, and the acute shortage in the supply of electrical services. All these had adversely affected the perception of the Sudanese people against the performance and governance of the transitional government. This is apart from the occurrence of the COVID-19 pandemic in Sudan on 13 March 2020, which has further worsened the economic situation due to lockdowns and protective measures which have slowdown overall economic operations in the country. Thus, the next section presents the effect of the COVID-19 pandemic on Sudan's economy.

Economic and Social Implications of COVID-19 and Omicron Variant

It should be noted that the socioeconomic effects of the COVID-19 pandemic were very huge and difficult to capture during the first wave in comparison to the subsequent waves i.e. second and third because it has emerged suddenly without any prior anticipation for such a disease. Furthermore, the strict protective measures (i.e. lockdown, curfew, isolation) that were taken by Sudan's authority during the first wave had worsened the socio-economic conditions further. Similarly, the emergence of Omicron variant has caused a great pressure worldwide due to its high transmission rate. As a result, many countries,including Sudan, imposed travel ban and other strcit protective measures to minimize it's subsequent effects.

COVID-19 Impact on major Economic Indicators (Aggregate Output & Inflation Rate)

The COVID-19 pandemic affected Sudan's economy through several channels that exacerbated the deterioration in the Economy. In addition to the direct effects of the pandemic, which were the illness of many people and the loss of lives, preventive measures also created many distortions (Mosab, 2021). The financial policies undertaken by the state played a major role in the deterioration of major macroeconomic indicators i.e. aggregate demand and supply. In this regard,

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Sudan's economy depends mainly on the movement of supply and demand in the formation and creation of economic value.

Accordingly, the International Monetary Fund has indicated that the GDP declined by 7.2% by 2020, with a trade deficit at 15.2% of GDP, and inflation rising to 81.3% implying further slippage of vulnerable people into poverty (UNDP, 2020). In this context, the first wave of the pandemic had sharply affected businesses supply/demand and the resulting supply chain in the following ways (This are the potential subsequent effects of Omicron variant if it has spread extensively):

- International trade interruptions cause a drop in manufacturing inputs (e.g., raw materials, labor, etc.) and export demand (e.g., finished goods, etc.). Furthermore, due to the huge increase in shipping expenses, the prices of imported items have increased as well (Mosab, 2021).
- Protective restrictions imposed on Sudan's population, such as home isolation and full lockdown, have hurt the trading and manufacturing sector. Only those activities that are regarded as necessary continue to operate in this regard. As a result, some factories have closed, while others have reduced their workforce. Consequently, production and supply of goods and services have both plummeted, resulting in lower sales (Supply Side).
- As a result of supply disruptions and the collapse of some businesses, household preferences and consumption were affected. Demand curves have shifted inward due to lower consumer expenditure (Demand Side). As a result, the Gross Domestic Product (GDP) has fallen, resulting in higher unemployment and moderating price rises.
- Taking all the above into consideration, the Ministry of Finance and Economic Planning (2021), indicated that "The growth rate of total investment in the year 2020 has reached 14.9%, and this is due to the instability in the economy at the macro level and stagnation due to the pandemic".
- Start uppers and self-employed workers were under pressure of business sustainability. Furthermore, they suffered from liquidity and solvency problems.
- Banks and the overall financial sector had non-performing loans and faced liquidity problems. Because disruption of normal business activities during the full lockdown has hindered some businesses from meeting their banking obligations.

Impact of COVID-19 pandemic on International Money Transfer

Due to the severe economic conditions facing Sudan, a lot of highly qualified experts have migrated to Gulf countries in search of sufficient income to support their families. Thus, nowadays many families in both urban and rural areas, have become directly dependent on the remittances they receive from their relatives who are working abroad (Mosab, 2021). Given that, interviewees indicated that among the serious economic repercussions of the Coronavirus, its impact on the remittances of the Sudanese expatriate. As the outbreak of COVID-19 has resulted in a sharp decline in remittance inflows, reducing household consumption. Similarly, the emergence of Omicron variant could adversely affect housholds consumption worldwide, due to the potential lock downs if the cases have increased in the near future.

Impact of COVID-19 on Poverty

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The poverty rate in Sudan has risen from 65 percent to 80 percent due to the Coronavirus's severe economic consequences (Hassan & Sarah, 2020). Sudan is now officially a low-income country, after previously being classified as a middle-income country, according to the World Bank's worldwide classification based on per capita income (2020).

Overall Social Implications of COVID-19 and Omicron variant in Sudan

On a global basis, the major social implication lies in the fact that COVID-19 and Omicron variant have decimated jobs and placed millions of livelihoods at risk. In this regard, the World Health Organization (2021) issued a statement stating the following "As breadwinners lose jobs, fall ill and die, the food security and nutrition of millions of women and men are under threat, with those in low-income countries, particularly the most marginalized populations, which include small-scale farmers and indigenous peoples, being hardest hit."

Given that, COVID-19 has affected the entire food system in Sudan and has laid bare its fragility. Border closures, trade restrictions, and confinement measures have prevented farmers from accessing markets i.e. for buying inputs and selling their output, in addition to agricultural workers from harvesting crops. Thus, disrupting domestic and international food supply chains and reducing access to healthy, safe, and diverse diets.

Conversely, the way of running day-to-day activities have changed, even businesses have suffered a lot. Some businesses were struggling to cope with the new conditions i.e. lockdowns, social distance, while others have changed their business models by utilizing technology to survive and cope with the pandemic. For instance, since the occurrence of the pandemic, first wave ,all universities and schools in Sudan have closed to limit the spread of the virus among the students. This closure has raised the need for an alternative to face-to-face classroom education, to ensure the continuity of the academic year. Thus, very few private universities and schools were able to switch to online or distance learning education. Nevertheless, they have struggled a lot due to the following shortfalls surrounding Sudan's environment:

- Weak technology infrastructure, and unawareness of technology implementation by many households.
- High cost of internet subscription.
- Regular electricity cutoffs represent the main pillar for running online activities.

Thus, all these shortfalls hinder the successful implementation of e-learning and e-business in Sudan, both before and after the occurrence of COVID-19 pandemic. In this regard, it is estimated that these would be the potential subsequent effects of Omicron variant if it has spread further.

Impact of COVID-19 Pandemic on the Labor Market in Sudan

A large number of private and public sector employees in Sudan have lost their jobs, and some have faced a significant drop in their income. Because companies were unable to function properly and foster their revenues during the early stages of the pandemic. Especially, with weak resources and the lack of support and protection from the transitional government, all of which made

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companies more vulnerable to the pandemic and the series economic crisis faced by the country. Thus, reducing workforce income was the only solution for businesses to foster such bad conditions. In this regard, key sectors that provide jobs for urban workers have been extremely affected due to the lockdown and protective measures. Such sectors are shaped in the; Service sector, Manufacturing &Trade sector, Hospitality & Transportation sector, in addition to Tourism sector.

In this setting, the service sector has been harmed because it employs over a million people, the majority of whom are employed in low-wage and casual positions. It is also dominated by small and medium-sized enterprises, the majority of which suffered significant losses during the lockdown and lack financing. COVID-19 safeguards, and Omicron variant imposed travel ban also impacted the hospitality and transportation industries. Because it employs a huge number of people who are paid daily. As a result, the workforce's financial status have been severely impacted by the shutdown. Furthermore, the closure of inter-state human traffic and restrictions on intra-city travel had a significant impact on transportation. The tourism industry, on the other hand, saw a significant drop in revenue due to the closure of Sudan's land, sea, and air borders to human traffic.

Workers in the informal economy, on the other hand, who are not regulated by the country and do not have clear rules, regulations, or laws to protect their rights, such as tea sellers and day-to-day laborers in markets, are particularly prone to the disease. Because the bulk of people lack social safety, proper health care, and productive assets. As a result, they are unable to stay at home and follow home isolation preventive measures, leaving them particularly vulnerable to the virus's threat. Consequently, many have lost their jobs and are unable to support their families. Furthermore, during the early phases of the COVID-19 pandemic, and upon the apperance of Omicron variant, insufficient government aid such as; cash compensation for this category of workers, constituted a threat.

Post the Outbreak of COVID-19 and Omicron variant Protective Measures

One of the most important instruments in the fight against COVID-19 and Omicron variant is vaccination. As a result, experts from all around the world have partnered, and put in a lot of effort to develop vaccinations that will save lives and decrease the impact of the COVID-19 pandemic. However, the degree to which these vaccinations could protect against the newly emerged Omicron variant is not clear, and still this issue is under investigation.

On other note, the World Health Organization (2021), announced that "As of February 18, 2021, at least seven distinct vaccinations across three platforms have been rolled out in countries". At the same time, more than 200 other vaccine candidates are being developed, with more than 60 of them moving forward into clinical trials. COVAX is also a part of the ACT Accelerator, which was launched in 2020 by WHO in collaboration with partners. COVAX, the vaccines pillar of ACT Accelerator, convened by CEPI, Gavi, and WHO, aims to end the acute phase of the COVID-19 pandemic by (1) accelerating the development of safe and effective COVID-19 vaccines (2)

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supporting the development of manufacturing capabilities and (3) working with governments and manufacturers to ensure fair and equitable allocation of vaccines for all countries.

In this context, by 3 March 2021 Sudan was the first country in the Middle East and North Africa (MENA) region to receive vaccines against COVID-19 from the COVAX facility. Over 800,000 doses of the AstraZeneca vaccine touched down at the Khartoum International Airport (WHO, 2021). The vaccines were delivered with UNICEF's support through COVAX. Accordingly, a vaccination campaign had started with a priority given to front-line workers, i.e. health care workers, the elderly, and those with chronic medical conditions. On 29th August 2021, Sudan's Federal Ministry of Health has received different types of vaccines. As a result, the Ministry has launched the second vaccination campaign without priorities.

Despite this, people must take precautions even if they have been vaccinated. In this regard, the World Health Organization (2021) stated, "We must continue to wear masks, physically distance ourselves from crowds, and avoid gatherings for the foreseeable future. Because the degree to which vaccines can protect not only against sickness, but also against infection and transmission is yet unknown, being vaccinated does not imply we can throw caution to the wind and put ourselves and others at risk."

The effect of lifting US Sanctions and the Name of Sudan from Terrorism List in Sudan's Economy

According to a report issued by the Congressional Research Service (2019), "President Trump withdrew economic sanctions against Sudan in 2017 under a staged framework for reengagement initiated under the Obama Administration, citing recorded success on five tracks." Some sanctions, such as those related to Sudan's status as a State Sponsor of Terrorism (SST), and congressionally imposed restrictions on aid and debt relief, remain in place."
Former US President Donald Trump said in October 2020 that "The United States would remove Sudan from the State Sponsors of Terrorism (SST) list after Sudan agreed to pay $335 million in compensation to the families of victims of the 1998 US embassy bombings." Sudan was thus officially removed from the list on December 14, 2020. This action would encourage and tempt foreign investors to invest in Sudan, and it might have a major economic impact.

Socio-Economic Effects Post COVID-19 (Inflation Rate & Authorities Actions)

In March 2021, the inflation rate in Khartoum State increased significantly. In this regard, the General Administration for Strategic Affairs and Information, in collaboration with the Central Bureau of Statistics, released the March inflation report, which revealed that the rate had risen to 373.7 percent, compared to 341.78 percent at the federal level in the country.

"The report monitored the most important commodities with an expenditure weight greater than 0.04 percent, which represents 86 percent of the spending weight of all commodities," said the Director of the General Department for Strategy and Information at the Ministry of Finance,

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Economy, and Investment in Khartoum State. The high prices of food groups, beverages, clothing, shoes, household equipment, regular household maintenance, health, transportation, hotels, and restaurants, as well as various goods and services, are attributed to this, with an 86.2 percent contribution rate and an expenditure weight of 78.7 percent of total spending weight.
Furthermore, the report stated that the transport services group is the most affected by inflation, with a rate of 902 percent, followed by the education services group with a rate of 516 percent, the restaurants and hotels group with a rate of 444 percent, and the food and beverage group with a rate of 297 percent.

The purchasing power of money decreases as the inflation rate rises, increasing the demand for money to buy the necessary products and services. As a result, the Sudanese pound has depreciated significantly against foreign currencies. As a result, the Central Bank of Sudan (CBOS) aligns the exchange rate between the bank and the parallel market, or black market, in late February 2021. In this context, the Central Bank announced an indicative exchange rate of 375 Sudanese pounds per dollar, up from the previous official rate of 55 pounds. On the black market, the dollar was worth between 350 and 400 Sudanese pounds.

Subsequently, the Central Bank of Sudan continue in setting a daily indicative price by adopting a flexible exchange rate regime. Furthermore, it obligated banks and exchange offices to trade within a range of 5% or less than that rate, as it set a profit margin between the buying and selling rates of no more than 0.5%.

CONCLUSION AND RECOMMENDATIONS

The socio-economic impacts and implications of the COVID-19 and Omicron variant were assessed. In this regard, it was surprising to see that Sudan's economy was already stressed before the occurrence of the COVID-19 pandemic. However, the situation worse further after its outbreak, as it has affected business sustainability in the country by causing a severe drop in productivity, supply, demand, and the overall supply chain. Furthermore, the study showed that the pandemic has changed consumer's preferences, consumption, and business activities. All and above, Sudan's economy already suffers from a high inflation rate, and sharp devaluation of the Sudanese pound towards foreign currencies. Moving forward, the emergence of Omicron variant have placed the global health systems on high alert. All of which would possibly lead to the preceding consequences. Thus, the study recommends the following:

- The authorities in Sudan must reinforce and rebuild the health system as quickly as possible. To aid the country in recovering from the COVID-19 pandemin, the newly emerged omicron variant, and any other catastrophic epidemic as quickly as possible. In addition, the government must reform rules and invest in public health, economic stimulus, and social safety nets.

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- Low-wage workers, also known as informal economy workers, should be given special attention by way of cash transfers, child allowances, and healthy school meals. As well as, shelter and food relief initiatives, support for job retention and recovery, and financial relief for businesses, including micro, small, and medium-sized enterprises. This type of assistance should be provided regularly.
- Authorities should strengthen technological infrastructure and encourage a technology-driven culture. Furthermore, greater public awareness of the importance of incorporating technology into business processes should be emphasized. All of this is required to ensure businesses sustainability during suddenly emerged pandemics.
- Authorities need to rethink the future of the environment and tackle climate change, as well as environmental degradation with ambition and urgency. Only then, they will be able to protect the health, livelihoods, food security, and nutrition of all people.

Moreover, several research areas should be addressed. Among these areas are:

- The impact and role of the media in the COVID-19 Omicron variant outbreak.
- The macroeconomic effects of the epidemic on social enterprises.
- Comparing current study results with COVID-19 Omicron variant studies in other developing nations.
- The causes of COVID-19 Omicron Variant's transmission, as well as the essential governmental responses should be assessed.
- Examine how well vaccines protect against infection, transmission, clinical disease of different degrees of severity and death.
- More studies can be conducted with a focus on the environmental factors which have a detectable effect on the virus.

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