Socioeconomic Influence of COVID–19 on the Informal Sector Businesses: Evidence from Enugu State, Nigeria

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Abstract- The study examined socioeconomic influence of Covid-19 on the informal sector in Nigeria, drawing insight from Enugu State. Data obtained from 340 informal business operators in rural, urban/semi-urban areas, descriptive statistics, and binary logistic model were used to analyse socioeconomic characteristics and socioeconomic influence of Covid-19 on the informal sectors. Findings suggest that majority (83%) of the informal business operators were affected adversely by COVID-19. Sampled informal sector businesses were male-dominated, and rural-dominated by location. Logistic regression revealed some significant socioeconomic influences of COVID-19 on the informal sector businesses. Such socioeconomic characteristics include age, sex, location, occupation, cost of transportation, cost of labour, and palliative receipt during the Covid-19 pandemic. Government should integrate the informal sector into the Nigerian economic development and sustainable plan in the post-Covid-19 period to ensure that the informal sector operates in a sustainable manner, and increased palliatives to enhance informal sector quick recovery is required.

Index Terms- Businesses; Covid-19; Informal sector; logistic regression; Socioeconomic.

I. INTRODUCTION

The Novel Coronavirus (COVID-19) pandemic (WHO, 2020a) which is a severe respiratory infection of public health concern since the 1918 Spanish flu, is the worst crisis of global scale since World War II (The New York Times, 2020). This pandemic has dealt a serious blow on both local, national and global economies (Amare et al, 2020). Besides the devastating direct health effect, the containment measures adopted by government vide closure of borders, ban on movement, total or partial lockdown of economic activities all have ripple effect on poverty, employment, education (Barret, 2020; Devereux et al, 2020) with World Bank forecasting a global push of 49 million people into extreme poverty in 2020 (World Bank, 2020a). while the macroeconomic effects of the pandemic such as fall in aggregate supply and demand as well as decline in exports and rise in overall government spending have been largely reported, less attention has been given to the effect of such pandemic on the informal sector where a vast majority of people are employed (CSEA, 2020). The International Labour Organisation refers informal economy to all economic activities by workers and economic units that are -in law or in practice -not covered or insufficiently covered by formal arrangements of which their activities are not included in the law. This implies that these businesses are operating outside the formal reach of the law; or they are not covered in practice, which means that-although they are operating within the formal reach of the law, the law is not applied or not enforced; or the law discourages compliance because it is inappropriate, burdensome, or imposes excessive costs. The Nigerian informal sector consists of hair dressing and barbing salon, micro and small-scale manufacturing, black market fuel sales, street trading and vending, restaurants, hawkers, vegetable sales, foodstuff sales, auto mechanics, other repairs and services. it also includes the small and medium enterprises (SMEs), the artisans, petty traders, small shop owners, and the rest who earn their living from their day to day activities (Oruonye et al, 2020) and employs the bulk of the workforce, employing over 80% in Nigeria (ILO, 2018) and contributing about 35 percent of GDP and employs more than 75 percent of the labour force in Africa (AU, 2020). The informal economy in Nigeria remains among the largest in the world and consists of a kind of social shock-absorber in major cities of the country (Oruonye et al, 2020; IMF, 2018). Given the fragile feature of the informal sector, especially in Nigeria, it is expected that the package of COVID-19 pandemic containment measures adopted by government will have dire socioeconomic consequences on the informal sector. However, while anecdotal evidence may point to such direction, the veracity of such expectation needs to be ascertained empirically especially in Enugu State where cases are increasing. Nevertheless, this sector is faced with a lot of challenges, ranging from lack of access to finance, low technology application and COVID-19 has potential to exacerbate these challenges.

The number of COVID-19 cases in Nigeria has been on the increase as the day goes by with its attendant consequences on the informal sector businesses. Figure 1 below shows the number of COVID-19 cases (lab confirmed), those on admission, discharged and number of death cases by States in Nigeria as at 13th August, 2020.

Fig.1: Nigeria COVID-19 Cases by State as at 13th August, 2020
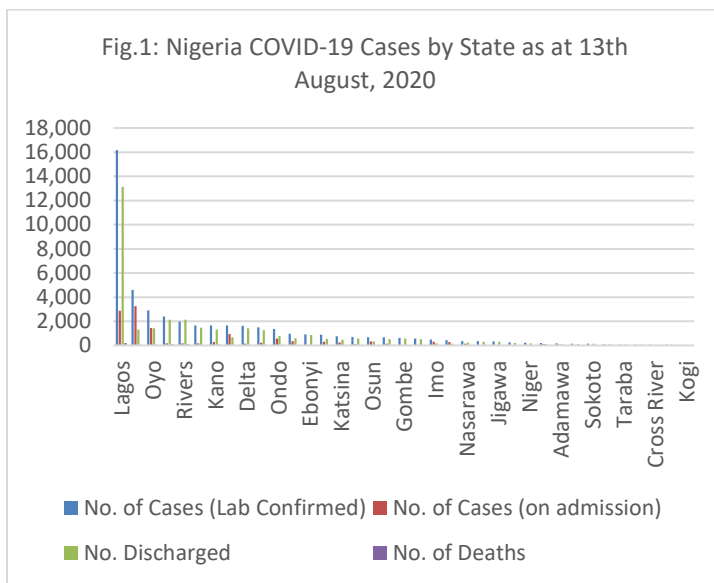
Source: Author's Computation from NCDC Available data as at 13th August, 2020

The figure shows that in different states of Nigeria, as at 13th August, 2020, the number of COVID-19 cases (lab confirmed), those on admission, discharged, and death cases were more in Lagos state. This is followed by those in Federal Capital Territory (FCT), Oyo, Edo, Rivers, Kaduna, Kano, Plateau, Delta, Ogun, Ondo, and Enugu ranking the 12th out of 36 states plus the Federal Capital Territory (FCT) with the highest number of COVID-19 cases (lab confirmed), those on admission, discharged, and death cases.

With Enugu State being one of the most affected COVID-19 cases (lab confirmed), those on admission, discharged, and death cases, informal sector businesses are also in affected given the high number of cases here. Hence, for Enugu state, the number of COVID-19 cases (lab confirmed), those on admission, discharged, and death cases can be seen in figure 2 given below:

FIG.2: ENUGU STATE COVID-19 CASES AS AT 13TH AUGUST, 2020
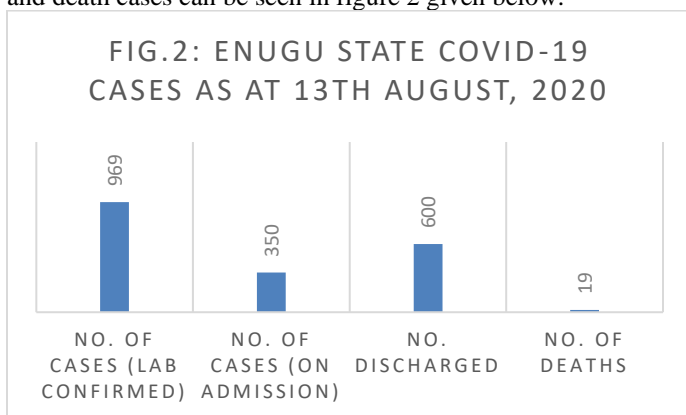
Source: Author's Computation from NCDC Available data as at 13th August, 2020

Figure 2 indicates that in Enugu state, as at 13th August, 2020, 969 people have been lab confirmed, 350 are on admission, 600 have been discharged while 19 people have died of the COVID-19.

There is also the fear that in Enugu state, the COVID-19 cases would be increasing at increasing rate given the level of perception and the level of compliance to the Nigeria Centre for Disease

Control (NCDC) protocols for containing COVID-19 by the people of the state especially, those in the informal sector. Some of the people in informal businesses still doubt the existence of COVID-19 as most of them have not seen or known anyone who has contracted the virus in person.

Further, the informal sector full adherence to the NCDC established guidelines like social distancing, wearing of face mask, washing of hands and hand sanitizing, to help contain the virus is difficult since most of the people in the informal sector are poor and try to eke out a living from their daily/weekly business proceeds. Again, government on its own part has provided very few palliatives, if not nothing, to the people in this sector to help them contain the virus. This has been attributed to weak institutions and lack of social welfare scheme by the government (Ozili, 2020) and as such, has made the outbreak of the pandemic uncontrollable. One strategy that was used by governments both Federal and State was to impose lockdown and inter-state movement restriction (except movement of essential workers and agricultural products/foods) on the people as a measure to contain the virus in different states (Nigeria Center for Disease Control – NCDC, 2020). The target was to prevent the spread of virus within institution as well as prevent the carriage to vulnerable individuals. Good as this strategy may look, it has reduced economic activities in Nigeria generally, and has affected businesses in the informal sector negatively, to the extent that some people in the sector find it difficult to have their daily feedings proper as they depend on daily and/or weekly income given the lockdown imposed by the government. Thousands of people working in both private formal and informal sectors lost their jobs and source of income as a result of the government policies geared towards containing the COVID-19 pandemic however, the informal sector has been most hit as businesses in this sector depend on daily income and also cannot afford the virtual means of doing businesses (Nnabuife, Okoli & Anugwu (2020).

However, even in the lockdown, COVID-19 cases and its death cases in Nigeria and Enugu State has continued to rise on daily basis. The major factor attributable to the continued rise in the number of cases and deaths on daily basis is that with the enforcement of the lockdown protocol, some corrupt security agencies collect bribes from people and allow them to go anywhere they have wanted (Chinery, et.al. 2020).

Currently there are few studies on the subject matter (United Nations Food and Agricultural Organization – UNFAO (2020); Nnabuife et al (2020) used Nigeria economy-wide data, other studies such as Amare et al (2020) focused on the impact of COVI-19 on food security using panel data while others focused on the effect on economic growth. Asante & Mills (2020) did a related work in urban marketplaces in Ghana but used only descriptive statistics. The present study seeks to deepen the analysis of the effect of COVID-19 by looking at the socio-economic influence on the informal sector using Enugu State, Nigeria as a test case. The study is a cross sectional study with a composed sample of 340 informal sector business operators chosen through a multi-stage technique from the 17 local government areas of Enugu State for the study. The study employed descriptive statistics and logistic regression model for data analysis. The rest of the paper consists of the literature review, the methodology, discussions of findings, and the conclusion and policy recommendations.

II. LITERATURE REVIEW

The literature review of this study is of three folds, namely, the conceptual literature, theoretical literature and the empirical literature. These are looked at in the sub-sections that follows as given below:

A. Conceptual Literature

Under here, the key concepts as given by available literature were looked at. Thereafter, the study defines each of the concepts as conceptualized by the current study. The key concepts of the study are: (i). COVID-19, and (ii). Informal sector. These are examined briefly as given below:

(i). COVID-19

Coronavirus disease 2019 (COVID-19) which is caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS_COV-2) has caused an alarming problem to the global health system (WHO, 2020; Nicola et al, 2020). Although humans face several epidemics and a few of them pandemic outbreak, e.g. Spanish influenza, SARS, MERS, Ebola, swine flu, Zika, and yellow fever (Buheji and Ahmed, 2020; WHO, 2020b), Covid-19 has been causing extraordinary impacts on countries, societies, and economies (Aydin and Ari, 2020). The World Health Organisation declared the outbreak of the novel corona virus a global emergency in January 30, 2020 (Sohrabi et al, 2020). Fever, cough and shortness of breath are the major symptoms of COVID-19. No vaccine for COVID-19 is currently available but can be prevented through staying at home, social distancing, use of face masks, frequent hands washing with soap and water, utilization of hand sanitizers, among other measures. COVID-19 was declared as a pandemic and has caused economic and labour market shocks, bringing about enormous effects through unemployment and underemployment on the people especially, those in the informal sector (UNFAO (2020).COVID was discovered around December, 2019 in China but now, it has spread all over the world causing the World Health Organisation to declare it a pandemic in March, 2020 (United Nations Medical Director, 2020). On 14th February, 2020, the virus was reported in Africa and since then, has spread to the 57 countries of the region as at August, 2020. The pandemic has resulted in over 4.3million confirmed cases and over 290,000 deaths globally and has triggered massive spike in uncertainty (Nicola, 2020; Baker et al, 2020). Baker et al (2020) identified three indicators that provided real-time forward-looking uncertainty measures. These indicators include stock market volatility, newspaper-based economic uncertainty, and subjective uncertainty in business expectation surveys. Moreover, emphasis has been great on the negative effect of the coronavirus pandemic, they could also present some opportunities not only for technological advancement in the provision of suitable vaccines that might fight the threat of the virus, but also in the rise of 'safety-driven entrepreneurial' projects (Buheji and Ahmed, 2020). Similarly, Buheji and Ahmed (2019c) noted that the pandemic presents an opportunity for the promotion of multi-disciplinary collaborative model(s) that will enhance collaborative and sharing economy practices regarding the management of common human threats with high availability and response.

(ii). Informal Sector

There is no unanimous consensus in the literature on the definition of the informal sector, as the sector is often defined in terms of employment categories, activity, location, among others (Onwe, 2013). The major feature of the informal sector is its dominance of micro and small-scale activities, production being labour intensive, mobility and flexibility of all business activities, ease of entry, capital and educational requirement for entry being low, and inability of business record keeping (Onwe, 2013; Odundajo, et al., 2019).

Informal sector is also dominated by economic activities that are not organized like those of them found in transport, agriculture, manufacturing, construction, and services in conjunction with trade activities like street vending, hawking among others (Sparks & Barnett, 2010; Nnabuife, et al., 2020). In Nigeria and Enugu State in particular, growth future of the informal sector has been put at risk given the COVID-19 outbreak.

The informal sector remains very crucial to the growth of the economies of developing nations, including Nigeria. It is that part of the economy that falls outside the purview of organized economic activities (Nnabuife et al, 2020). its importance in the Nigeria economy lay in the fact that it employs significant chunk of the workforce (Omisakan, 1999) and contributes over 41% to Nigeria Gross Domestic Product and 57.9% to Nigeria's GNP at US$212.6 billion (Schneider, 2002). Although the Nigerian economy had witnessed several dislocations in terms of crisis, such as the global financial crisis, a distinguishing feature of the covid-19 crisis is that many businesses, both in the informal sector could not actively open for fear of being infected (Ozili, 2020). This tends to put the growth prospect of the informal sector at risk. Akintimehin et al (2019) noted that social capital plays significant role in the business performance of informal sector in Nigeria whereas internal social capital had a significant effect on non-financial performance but not on financial performance, while external social capital had no significant effect on financial and non-financial performance. In exploring the contribution of the informal sector to economic activities in Lagos State, Nigeria, Otekhile and Matthew (2017) noted that street trading is one of the ways of providing employment and generating a source of livelihood for the unemployed and suggested that the federal government of Nigeria should encourage the emergence of micro business by providing loans to the operators of such business. The informal sector in Nigeria tends to be characterized by low occupation risk awareness. For instance, an examination of the health risk awareness levels of e-waste workers in terms of knowledge, altitude, and practices associated with occupational health risk awareness in the informal sector reveals a positive correlation between informal workers' knowledge and their attitude and practice (Ohajinwa, Peijnenburg, & Vijver, 2017).

B. Theoretical Literature

This study is anchored on the modernization theory of the informal sector which was first used by Lewis (1954). The theory was later developed by Harris & Todaro (1970). It was further developed by Elgin & Oyvat (2013) and Huang, Xue, & Wang (2020). Modernization theory of the informal sector in earlier works of Lewis (1954) and Harris & Todaro (1970) was referred to as dualism theory.

The theory states that informal sector economy tend to grow with a rising unemployment rates (Elgin & Oyvat, 2013). The theory further posits that economic crisis boosts informal sector employment growth as a result of fall in formal sector economies and an increase in unemployment among the people in an

economy. In addition, the theory argued due to formal inadequate employment opportunities, a rise in the number of rural – urban migration raises informal sector growth (Huang, Xue, & Wang (2020)).

This theory therefore explains variations in productivity and its associated earnings with micro and small-scale enterprises. Therefore, in the informal sector, self-employment, artisanal productions, one-person businesses, and domestic services are the order of the day (Yusuff, 2011; Gibson & Kelley, 1994) and the socioeconomic systems of different economies have been greatly affected by this sector.

C. Empirical Literature Review

There have been some previous studies on impact of COVID-19 on the informal sector. For instance, Wegerif (2020) discussed the impact of Covid-19 on the informal food traders and their role in ensuring food security in South Africa. Using a theoretical framework, the study noted that when the South African government responded to the pandemic, the informal sector was not included in the response package. Consequently, the study observed that there will be increased levels of food insecurity, loss of income and loss of affordable food retailing options. Besides, using SIR Epidemiologic model, Bennihi & Bouriche (2020) examined the impact of the Covid-19 pandemic on the informal economy and its effect on the Algerian economy. the study concluded that the Covid-19 pandemic causes infected people to be less productive, this means that the negative income effect reduces the consumption of the infected people. Similarly, Narula (2020) used theoretical framework to examine the challenges of the Covid-19 pandemic and policy opportunities for economies with large informal sector and noted that the pandemic has exposed the vulnerability of the sector. Khambule (2020) observed that government response on the effects of Covid-19 on the South African informal economy acts as a shock absorber in terms of providing employment. On the other hand, Mukhtarova, (2020) noted that the impact of the pandemic has been worse for women working in the informal sector and also, due to the lockdown, domestic violence for women informal workers has increased. The need for income support to workers and businesses in the informal sector was underlined. Lapeyre, Behrendt, Bonnet, and Travieso (2020) examined the impact Covid-19 pandemic on the informal sector, policy changes and responses and highlighted the devastating health and economic impact of the virus on the workers of the informal sector.

Nnabuife, Okoli & Anugwu (2020) examined the impact of Covid-19 on the economic prospects of the informal sector. Using a theoretical analysis, the study discussed the reasons for the growth of the informal sector, impact of the Covid-19 and also highlights the challenges of the sector. The study recommended the need for government to grant tax incentives to the informal sector and also implement cost-effective tax incentives to minimize the impact of Covid-19 on the sector. Nnabuife et al (2020) found that demands will be reduced. FAO (2020) revealed that COVID-19 pandemic presents a major economic and labour market shock, presenting significant impact in terms of unemployment and underemployment for formal workers. The lockdown and restrictions have put the livelihoods of the rural dwellers at risk as their major source of survival-food supply chains are disrupted. Similarly, women, children and youths who are over-represented in the informal sector will be faced with even worse situation (FAO, 2020). The study also noted that the reduction in wage employment that will result from the COVI-19 pandemic has the potential to limit the ability of small-scale producers to diversify their income. Avenyo et al (2020) in their study on COVID-19, lockdowns, and Africa's informal sector: lesson from Ghana, found no gender-gap in the sales and innovation but found an explained and unexplained gender-gap in how size affects current sales of informal enterprise. Avenyo et al conjectured that Covid-19 has the potential of introducing gender-and spatial-gap in the performance of informal enterprises. However, one shortcoming of their study is that the data used were collected before the pandemic. Oruonye et al (2020) also examined the impact of Covid-19 on informal sector and livelihood sustainability in Nigeria using conceptual approach and observation. Our strong reservation for this study derives from the fact that mere observation may not be able to reveal what the effects are and may amount to anecdote. Previous efforts on the subject matter tends to use theoretical, conceptual, and observation approach. Again, some of the studies that are empirical used data collected before the Covid-19 period which does not capture the influence of covid-19 pandemic. In addition, little effort has been made to use empirical data to investigate the socioeconomic influence of covid-19 on the informal sector in Nigeria. The current study contributes to existing study by using empirical data collected during the covid-19 period to investigate the socioeconomic influence of Covid -19 pandemic on the informal sector using Enugu State, Nigeria as a case study.

III.   METHODOLOGY

A. Analytical Framework and Model Specifications

We estimated the socioeconomic effect of Covid-19 on the informal sector using two ways. First, we applied descriptive statistics such as percentages and mean to analyse the socioeconomic characteristics of the informal business operators, while in the second stage, we applied logistic regression model to examine the socioeconomic effect of Covid-19. The dependent variable has two categories; those that are severely affected and those that are not. The socioeconomic variables included in the model consist of age, sex/gender, sector/location, education level, religion of respondent, marital status, labour cost during

lockdown, cost of transportation, receipt of palliative, expenditure on food during lockdown, occupation of respondents. Some of these variables are continuous while others are discrete. The full description/definition of the variables used for the study is contained in Table 1. The data were generated through structured questionnaire.

The model specification of this study is anchored on the modernization theory of the informal sector while descriptive statistics and binary logistic regression model were used to achieve the study objective. Binary logistic regression model is a binary choice model and also a special form of a generalized linear model (Omeje, Mba, & Ugwu, 2020). Therefore, the logistic

regression model employed to examine socioeconomic impact of COVID – 19 on the informal sector in Nigeria can be specified as given below:

$$Pr(Y_i \neq 0/X_i) = \frac{exp(X_i a)}{1 + exp(X_i a)} \ldots \ldots \ldots \ldots \ldots \ldots (1)$$

where;

Y_i = the predicted variable (taking the value 1 for informal sector being affected adversely by COVID-19, and 0 otherwise).

X_i = vector of independent variables in the ith observation (capturing socioeconomic variables), for which i = 1, 2, …, n; and can be continuous or binary.

P(Y = 1) = probability that the variable, Y, assumes the value, 1.

P(Y = 0) = probability that the variable, Y, assumes the value, 0.

P(X|1) = conditional distribution of X given the value of Y. in the same manner, P(X|0) is defined.

a = vector of the estimated parameters.

In line with the above, equation (1) can be re-specified based on index function as given in equation (2) below:

$$Pr(Y_i = 1) = F(X_i a) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (2)$$

where; all the variables remained as defined above. F = functional notation.

Transforming equation (2) to natural logarithm and to its estimable function, yields equation (3) given below:

$$ln\left(\frac{P(X|1)}{P(X|0)}\right) = a_0 + a_1 X_1 + a_2 X_2 + \ldots + a_n X_n \ldots \ldots (3)$$

where; ln = natural logarithm, a_0 = constant term, a_i = parameter estimates for i = 1, 2, …, n.

However, itemizing the variables of the model and re-specifying them in functional form yields equation (4):

$$infsec = f(age, sex, sector, rel, edu, mstatus, labourcost,$$
$$transptcost, palliative, expfood, occupation) \ldots \ldots \ldots (4)$$

where; the variables are as defined in the table 1 below:

Table 1: Definition of Variable Names in the Model

Variable Names	Definitions
infsec	Informal sector business (1 for informal sector being affected adversely by COVID-19, and 0 otherwise)
age	Age of respondent
sex	sex of respondent (1 = male, 0 = female)
sector	Respondent's sector (1 = urban, 2 = rural)
rel	Respondent's religion (0 = traditional, 1 = Christian, 2 = Islamic)
edu	Respondent's level of education (1 = tertiary, 2 = secondary, 3 = primary, 4 = no formal education)
mstatus	Respondent's marital status (1 = married, 2 = single, 3 = widowed, 4 = divorced)

labourcost	Labour cost during the lockdown (1 = increased, 0 = otherwise)
transptcost	Cost of transportation during the lockdown (1 = increased, 0 = otherwise)
palliative	Respondent received COVID-19 palliative during lockdown (1 = yes, 0 = no)
expfood	Respondent's expenditure on food during the lockdown
occupation	Respondent's occupation (0 = hair dressing and barbing salon, 1 = micro and small scale manufacturing, 2 = black market fuel sales, 3 = street trading and vending, 4 = restaurants, 5 = hawkers, 6 = vegetable sales, 7 = foodstuff sales, 8 = auto mechanics, 9 = other repairs and services)

Source: Author's Compilation

B. Study Area

Enugu State is one of the thirty-six States that make up Nigeria as a Federation. It is located in the South-Eastern part of the country which is an Igbo speaking part of Nigeria. The geopolitical significance of Enugu is attributed to coal discovery in 1909 by British geologists. This brought about a permanent cosmopolitan settlement that led to the railway line construction linking coal fields in Enugu to Port Harcourt sea port with the aim of the mineral exportation (Omeje and Abugu, 2015).

Enugu state has common borders with Abia State and Imo State to the south, Ebonyi State to the east, Benue State to the northeast, Kogi State to the northwest and Anambra State to the west. Enugu, the capital city of Enugu State, is approximately 2½ driving hours away from Port-Harcourt, where coal shipments exited Nigeria. Enugu is also located within an hour's drive from Onitsha, one of the biggest commercial cities in Africa and 2 hours drive from Aba, another very large commercial city, both of which are trading centres in Nigeria.

It has seventeen (17) local government areas (LGAs); Aninri, Awgu, Enugu-East, Enugu-North, Enugu-South, Ezeagu, Igbo-Etiti, Igbo-Eze North, Igbo-Eze South, Isi-uzo, Nkanu-East, Nkanu-West, Nsukka, Oji-River, Udenu, Udi, and Uzo-uwani (Omeje and Abugu, 2015).

Enugu has good soil-land and climatic conditions all year round, sitting at about 223 metres (732 ft) above sea level, and the soil is well drained during its rainy seasons. The lowest rainfall of about 0.16 cubic centimetres (0.0098 cu in) is normal in February, while the highest is about 35.7 cubic centimetres (2.18 cu in) in July. Virtually, land in all the 17 local government areas of the State is good for and/or supports agricultural production. It has its major commercial agricultural cities as Adani in Uzo-uwani LGA well known for the production of Ada-rice, Igbo-Eze North well known for their palm produce (palm wine), Awgu, and Nsukka well known for the production of cocoyam (Omeje and Abugu, 2015). Also, in all the 17 local government areas of the State, informal sector activities are supported in different areas of production, work, businesses, and services.

C. Data and Method of Data Collection

The study used survey data generated from 340 informal business operators in both urban or semi-urban, and rural locations in Enugu State, Nigeria between September, 2020 and .mid-January,

2021. The study focused only on informal sector businesses in Enugu State, Nigeria. Practically, in the entire 17 LGAs in Enugu State, informal sector businesses were considered. Hence, after applying the multi-stage convenient/purposive sampling technique, the study drew a sampling of those engaged in informal sector businesses. The reason for adopting convenient sampling is because not every informal operator was opening business during the restriction/lockdown period.

In each LGA of the State, two (2) locations per LGA were considered. Overall, thirty-four (34) urban or semi-urban and rural locations were visited with the consideration of one (1) urban or semi-urban location and one (1) rural location in the 17 LGAs of Enugu State, Nigeria. In each of these two (2) locations per LGA, twelve (12) rural and eight (8) urban or semi-urban people engaged in informal sector businesses were randomly selected from each of the selected locations thereby, summing up to twenty (2) informal sector businesses in each Local government hence, making it a total of 340 informal sector businesses interviewed in all. Therefore, a total of 340 local government-based questionnaires which gave consistent reports were administered and collected from people engaged in informal sector businesses and were used for analyses. The choice of these data is due to the fact that, the questionnaires designed by this study, provided more complete information about the variables used in the estimation of the variables of the study model which other surveys did not capture. However, given the delicate nature of the period as Nigeria was just coming out from the total lockdown occasioned by the Covid-19 pandemic, more rural and semi-urban operators of informal businesses were interviewed through convenient sampling technique. More of semi-urban and rural operators were used for the study because the core urban areas are potential hot-spot for Covid-19 and much riskier. Nevertheless, the enumerators observed strict Covid-19 protocol of wearing face mask, use of sanitizer, and social distancing to ensure safety and prevent contact.

D. Method of Data Analysis

In line with the objective of the study, the data were analyzed using simple descriptive statistics such as percentage, mean, and charts/graphs as well as binary logistic regression model.

## IV. RESULTS AND DISCUSSION

A. Socioeconomic Characteristics of Respondents

This study first presents the socioeconomic characteristics of the informal sector businesses that responded to questionnaires distributed among them. Figure SM1 shows the distribution of respondents by Local Government Areas (LGAs).


FIG.SM1: DISTRIBUTION OF RESPONDENTS BY LOCAL GOVERNMENT AREAS
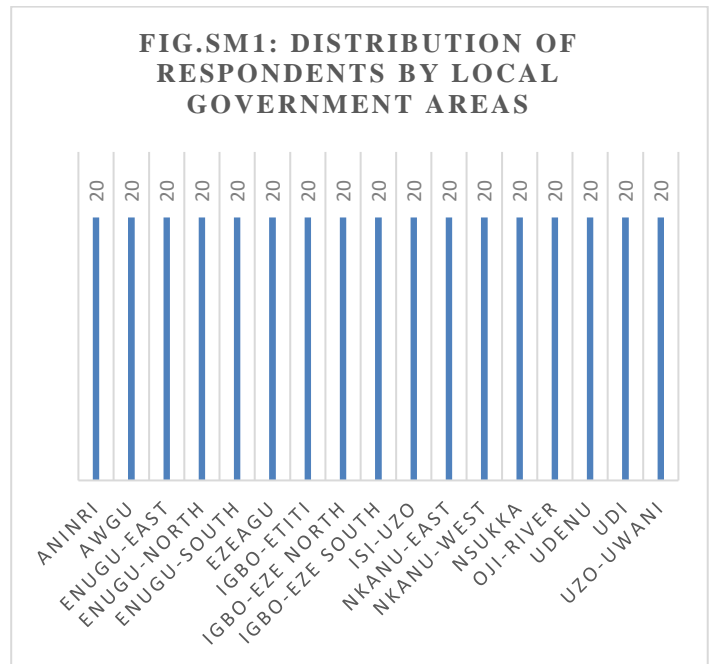
Source: Authors' computation from Survey Data (2020/2021)

The result shows that respondents were distributed equally (20) each across the 17 LGAs. Similarly, figure SM2 shows the distribution of informal sector businesses affected adversely by COVID-19 in Enugu State, Nigeria. The figure depicts that majority (83%) of the informal business operators agreed that COVID-19 affected them adversely while less than 15% said that COVID-19 did not affect them adversely. This implies that in Enugu State, more informal sector businesses were adversely affected by COVID-19.

Fig.SM2: Distribution of informal sector businesses affected adversely by COVID-19 in Enugu State, Nigeria
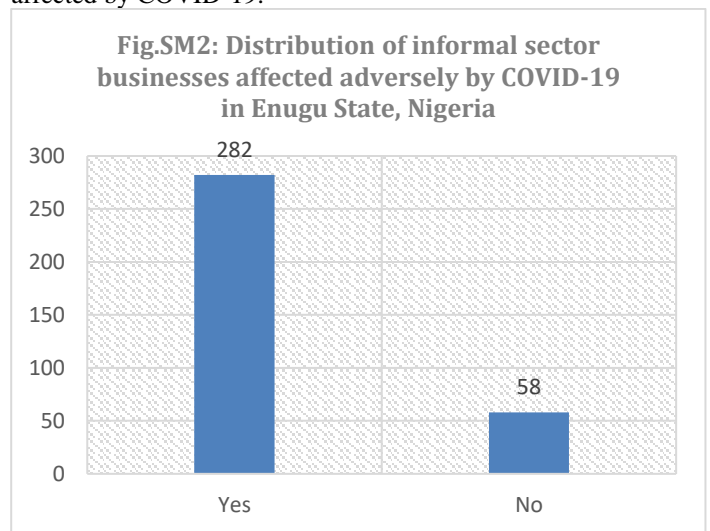
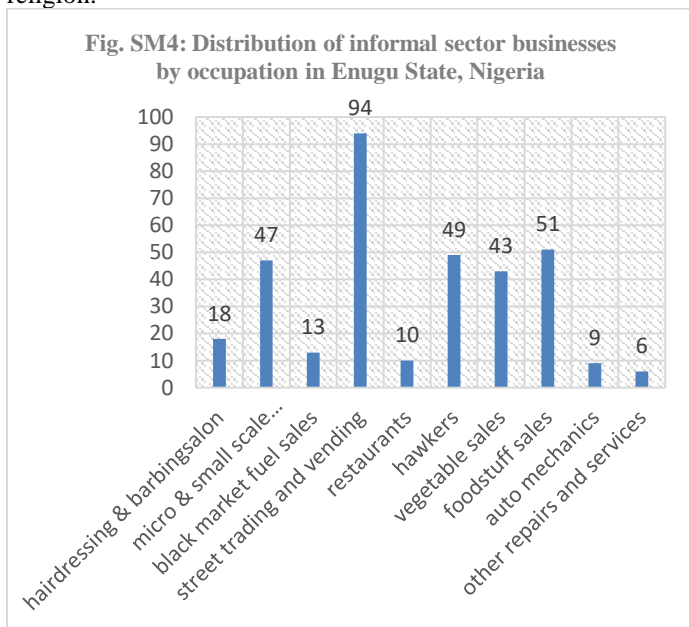*Source: Authors' Computation from Survey Data (2020/2021)*

Further, Fig.SM3 also shows the distribution of informal sector businesses by sex, sector and religion in Enugu State, Nigeria. It can be observed from the figure that in terms of sex or gender, the males dominated (244) the sampled informal sector businesses (respondents) while that of the female is 96. The implication here is that the number of male informal sector businesses are greater than that of females the State.

Fig.SM3: Distribution of informal sector businesses by sex, sector and religion in Enugu State, Nigeria
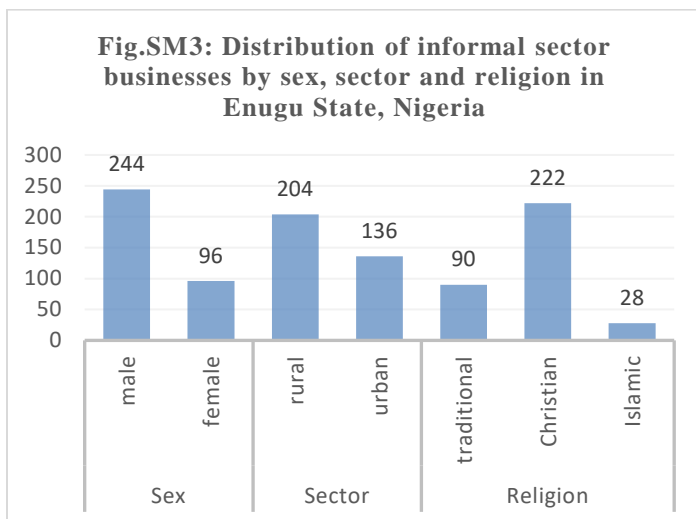
Source: Authors' Computation from Survey Data (2020/2021)

In the same vein, fig. SM3 reveals that about 60% of the sampled informal sector business were in the rural area while about 40% were either semi-urban or urban operators. This depicts that people engage in informal sector business activities more in rural areas compared to their counterparts in the urban or semi-urban areas in Enugu State, Nigeria.

As regards religion, it can be seen from the same fig.SM3 that 90 of the sampled informal sector business operators are traditional worshipers while 222 are Christian inclined and 28 are of Islamic religion. This shows that in Enugu State, Nigeria, majority of the people who engage in informal sector business activities are Christians, followed by traditionalists and lastly, those in Islamic religion.


Fig. SM4: Distribution of informal sector businesses by occupation in Enugu State, Nigeria

Source: Authors' Computation from Survey Data (2020/2021)

The result in fig.SM4 indicates that during the lockdown, the distribution of those engaged in hairdressing and barbing salon are 18, those engaged in micro and small-scale manufacturing are 47, black market fuel sales are 13, those engaged in street trading and vending are 94, restaurants are 10, hawkers are 49, vegetable

sellers are 43, foodstuffs are 51, auto mechanics are 9, while those engaged in other repairs and services are 6. The implication here is that the number of informal sector businesses by occupation in the state showed greater number of those engaged in street trading and vending being in business during the lockdown compared to those in other occupation. This is followed by those who sell foodstuffs, hawkers, micro and small-scale manufacturing, vegetable sellers, hairdressing and barbing salon, restaurants, auto mechanics, and lastly other repairs and services.

COVID-19 perception among informal sector business participants is still low as shown by figure SM5 and SM6 as given below:

FIG.SM5: PERCEPTION OF COVID-19 AMONG INFORMAL SECTOR BUSINESSES
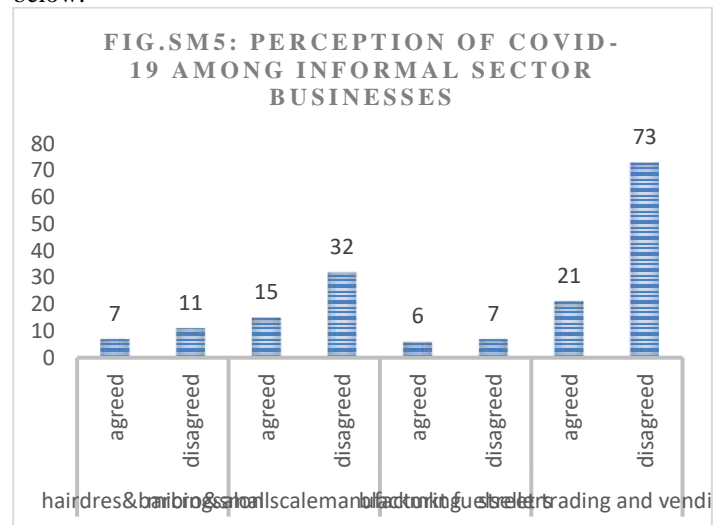
Source: Authors' Computation from Survey Data (2020/2021)

In Fig.SM5, only 7 out of 18 people who are engaged in hairdressing and barbing salon agreed that they are aware that COVID-19 exists while the remaining 11 people feel that COVID-19 does not exist. More so, only 15 out of 47 informal sector businesses engaged in micro and small-scale manufacturing agreed that they are aware that COVID-19 exists while the remaining 32 informal sector businesses feel that COVID-19 does not exist. Further, among the black-market fuel sellers, only 6 out of 13 of them agreed that COVID-19 exists while the remaining 7 of them feel that COVID-19 does not exist. In addition to the above, among street trading and vending informal sector businesses, only 21 out of 94 agreed that they are fully aware that COVID-19 exists while the remaining 73 of them feel that COVID-19 does not exist.
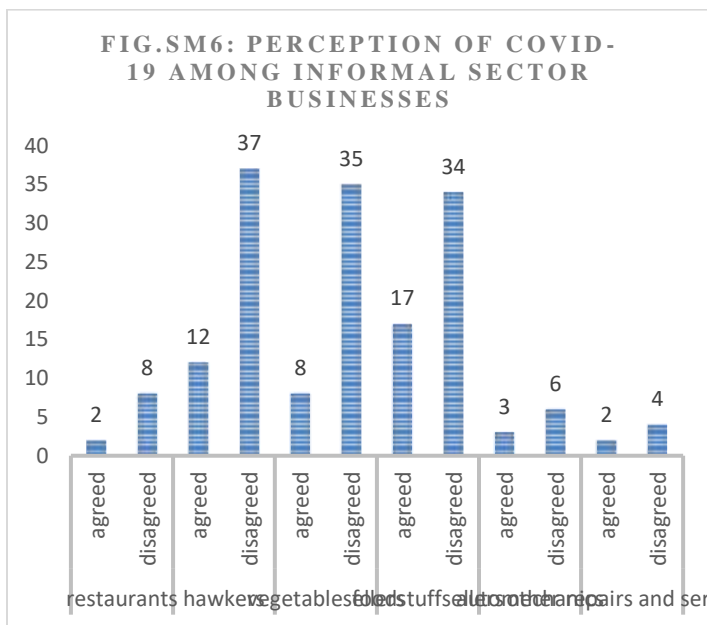
Source: Authors' computation from Survey Data (2020/2021)

Similarly, in Fig.SM6 also, only 2 out of 10 people who are engaged in restaurants agreed that they are fully aware that COVID-19 exists while the remaining 8 feel that COVID-19 does not exist. In addition, only 12 hawkers out of 49 agreed that they are fully aware that COVID-19 exists while the remaining 37 feel that COVID-19 does not exist in Enugu state, Nigeria. For those that are engaged in vegetables, only 8 out of 43 of them agreed that they are fully aware that COVID-19 exists while the remaining 35 feel that COVID-19 does not exist. On foodstuff sellers, only 17 out of 51 of them agreed that they are fully aware that COVID-19 exists while the remaining 34 feel that COVID-19 does not exist in Enugu state, Nigeria. With respect to informal sector businesses who are in auto mechanics, only 3 out 9 of them agreed that they are fully aware that COVID-19 exists while the remaining 6 feel that in Enugu State, COVID-19 does not exist. Finally, for those informal sector businesses who are engaged in other repairs and services, only 2 out of 6 of them accepted that they were fully aware that COVID-19 exists while the remaining 4 of them felt that COVID-19 does not exist in Enugu state, Nigeria.

The implication of this finding is that in Enugu State, Nigeria, majority of the people engaged in informal sector businesses believe that COVID-19 does not exist. For them, they have not seen anybody who has been infected by the virus or had any relative who had contracted the virus irrespective of the increasing number of confirmed cases and deaths with regard to the virus being announced everyday by NCDC. This implies that there is still shallow understanding and/or perception of the virus among the people in the informal sector. Another implication of this finding is that majority of those in the informal sector seem not to have been obeying the protocols given by the NCDC for containing the virus since they have not seen or heard that any of their loved ones who has contracted the virus and how the virus operates.

B. Presentation of the Logit Model Results

Table 2 shows the result of the logistic regression model that examined the socioeconomic influence of COVID-19 on the informal sector in Nigeria, drawing the experience from Enugu State.

Table 2: Summary Results of Logistic Regression Model (infsec = Dependent Variable)

Variables	Coef.	Std. Err.	z	P>|z|
Age	.0914720	.0128840	7.10	0.000
Sex	-.7492810	.2045756	-3.66	0.000
Sector	-.4780395	.1174393	-4.07	0.000
rel	1.17543	.3332478	3.53	0.000
edu	.395407	.1328413	2.98	0.003
mstatus	.2931335	.2290982	1.28	0.201
labourcost	-1.156911	.5784005	-2.00	0.045
transptcost	-.1614063	.5272268	-0.31	0.759
palliative	-.7516396	.2585984	-2.91	0.005
expfood	.500363	.1274497	3.93	0.000
occupation	.1626864	.0949003	1.71	0.086
_cons	.350697	1.108539	0.32	0.752

Source: Authors' computation from Survey Data (2020/2021)

The result indicates age has an estimated coefficient of 0.0914720. This implies that for a one-year increase in age of the respondent, the log-odds of informal sector businesses being affected adversely by COVID-19 rises significantly by 0.0914720 holding all other variables constant. The implication of this result is that with a rise in age of the operator in the informal sector, the more informal sector businesses would be at risk of being affected adversely by COVID-19 since elderly people may not have strong immune system that could fight back COVID-19 when such aged operator contracts Covid-19. The estimated coefficient of sex is -0.7492810. This means that a male informal business operator is less likely to be adversely affected than a female informal business operator. The implication of this result is that male informal business operators are more resistant to Covid-19 than women, probably because men are more diversified in their struggle for survival and may engage in other businesses to augment their enterprise

In addition to the above, sector/location has an estimated coefficient of -0.4780395. This suggests that business operators in the semi-urban or urban areas are more likely to be adversely affected by Covid-19 than their rural counterparts. This seems plausible because the urban sector is more prone to the effect of Covid-19 since the pandemic containment measures such as strict lockdown, lock up of businesses and restriction of movement are more pronounce in the semi-urban and urban areas. Again, urban centres are more prone to having increase cases of COVID-19 since increased number of people abroad who are more exposed to COVID-19 only flood the urban centres.

Further, education (edu) has an estimated coefficient of 0.395407. This implies that moving from tertiary, to secondary, primary, and to no formal education, increases the log-odds of informal sector businesses having significant adverse effect of COVID-19 by 0.395407 holding all other variables constant. The implication here is that with higher education level of those engaged in informal sector businesses, the higher their awareness of COVID-19 and its associated health risks, and the higher their observance

of NCDC protocols of containing the virus and hence, the lower the adverse effect would be on their businesses in the informal sector.

The estimated coefficient of marital status (mstatus) is 0.2931335. This means that moving from being married to being single, widowed, and to being divorced increases, although insignificantly, the log-odds of informal sector businesses being affected adversely by COVID-19 by 0.2931335 holding all other variables constant. The implication of this result is that being single, widowed, and/or being divorced gives one the freedom to go anywhere he/she wants thereby, exposing the person more to COVID-19 virus which definitely would raise the log-odds of the person engaged in informal sector activities being affected adversely by COVID-19.

Labour cost (labourcost) has an estimated parameter of -1.156911. This means that increasing the cost of labour during the lockdown decreases the log-odds of informal sector businesses being affected adversely by COVID-19 significantly by 1.156911 holding all other variables constant. The implication of this result is that when labour costs are raised, the demand for labour will fall thereby, making some people involved in informal sector businesses not to go to work. This however, would reduce the log-odds of informal sector businesses being affected adversely by COVID-19 significantly.

In like manner, transportation cost (transptcost) also exhibited parameter estimate of -0.1614063. This means that increasing the cost of transportation during the COVID-19 period (lockdown) also decreases the log-odds of informal sector businesses being affected adversely by COVID-19 although, insignificantly by 0.1614063 holding all other variables constant. The implication of this result is that raising transportation costs would scare away people engaged in informal trading in the State from traveling during the COVID-19 period in order to reduce adverse effect of the virus on informal sector activities. More so, raising transportation cost would also increase the cost of goods and services thereby, reducing demand for some products and hence, discouraging some people involved in informal sector businesses from travelling around anyhow. This would therefore, reduce the risks of infecting people who have had contacts with an already infected person and as such, decrease the log-odds of informal sector businesses being affected adversely by COVID-19 although, insignificantly.

In addition, receiving COVID-19 palliative during lockdown and/or COVID-19 period (palliative) by informal sector businesses also revealed a parameter estimate of -0.7516396. This means that increase in the number of people in the informal sector who received and/or are to receive COVID-19 palliative during lockdown (COVID-19 period) automatically decreases the log-odds of informal sector businesses being affected adversely by COVID-19 very significantly by 0.7516396 holding all other variables constant. The implication of this result is that when more palliatives are given to more people engaged in the informal sector in Enugu State during the lockdown, COVID-19 adverse effect on informal sector activities would be drastically and significantly reduced.

It can also be seen from the results also that expenditures on food (expfood) shows a parameter estimate of 0.500363. This implies that with a ₦1 increase in food expenditure in the State, the log-odds of informal sector businesses being affected adversely by COVID-19 would rise significantly by 0.500363 holding all other variables constant. The implication here is that with a rise in food expenditure of the people in the informal sector, the more informal sector businesses would be faced with the risk of being affected adversely by COVID-19 since people would now find it very difficult to feed well thereby, making their immune system to be low in fighting back COVID-19 when contracted by the person. Hence, this would expose them more to the risk of COVID-19 due to low and/or no income and rising cost of food during the lockdown, which will now make them to consume low quality foods that lack adequate nutrients and as such, make those engaged in informal sector businesses to be affected adversely more by COVID-19 significantly.

The logistic regression results also indicates that occupation (occupation) has an estimated coefficient of 0.1626864. This implies that for any given change in occupation within the informal sector by the people in order to eke out a living during the lockdown, increases the log-odds of informal sector businesses being affected adversely by COVID-19 although, insignificantly by 0.1626864 holding all other variables constant. The implication here is that with frequent changes in occupation by the people in the informal sector during the lockdown period, the more informal sector businesses would be exposed to the adverse effects of COVID-19. This is true since people would try to move around trying to get all sorts of menial jobs to do in a bid to feed well during the COVID-19 lockdown; and moving around without strict adherence to the NCDC protocols exposes people more to the virus and as such, would adversely affect informal sector business activities the more.

C. Specification Error Test

The study applied the linktest in a bid to detect if there exist specification error in the model. The linktest posits that the linear predicted value (_hat) should be statistically significant while the linear predicted value squared (_hatsq) should be statistically insignificant for the model to be correctly specified. Hence, the linktest results can be seen in table 3 given below:

Table 3: Summary Results of the Specification Error Test

infsec	Coef.	Std. Err.	z	P>|z|
_hat	1.118808	.2482988	4.51	0.000
_hatsq	-.0489243	.0801153	-0.61	0.541
_cons	-.006264	.2434956	-0.03	0.979

Source: Authors' computation from Survey Data (2020/2021)

The results revealed that the linear predicted value squared (_hatsq) is statistically significant while the linear predicted value squared (_hatsq) is statistically insignificant predictors of (infsec), thereby suggesting that the model is not mis-specified. This therefore, implies that the study did not omitted relevant variable(s) in the model hence, indicating that the study's link function was correctly specified.

V. CONCLUSIONS AND POLICY RECOMMENDATIONS

This study empirically looked at socioeconomic influence of COVID – 19 on the informal sector in Nigeria, drawing experience from Enugu State. Using survey data generated from 340 informal sector businesses operators, and applying descriptive statistics and logistic regression model, the study found that greater percentage of informal sector business operators were affected adversely by COVID-19 in Enugu State while few of the informal business operators were not adversely affected. Further, in Enugu State, Nigeria, majority of the people engaged in informal sector businesses believe that COVID-19 does not exist. For them, they have not seen anybody who has been infected by the virus or had any relative who had contracted the virus irrespective of the increasing number of confirmed cases and deaths with regard to the virus being announced everyday by NCDC. This implies that there is still shallow understanding and/or perception of the virus among the people in the informal sector. Another implication of this finding is that majority of those in the informal sector seem not to have been obeying the protocols given by the NCDC for containing the virus since they have not seen or heard that any of their loved ones who has contracted the virus and how the virus operates.

The results of the logistic regression revealed some significant socioeconomic influences of COVID-19 on the informal sector businesses. Such socioeconomic characteristics include age, sex, location, occupation, cost of transportation, cost of labour, as well as palliative receipt during the Covid-19 pandemic.

The study therefore recommends that government at all level, non-governmental organisations, private sector philanthropists, and other high-spirited individuals should strive more to extend more COVID-19 palliatives to the people especially, those engaged in the informal sector businesses to help them in cushioning the adverse effects of COVID-19. In addition, it is necessary that government integrate the informal sector into the Nigerian economic development and sustainable plan in the post-Covid-19 period to ensure that the informal sector operates in a sustainable manner. In the short-run, there should be increased palliative for the informal sector to enhance quick recovery. In this sense, the Central Bank of Nigeria N50billion Micro, Small, Medium, Enterprise stimulus package should accommodate the informal sector operators. Again, informal sector business operators in the urban and rural communities should look in-wards to develop their capabilities towards bringing a cure to COVID-19 by researching on some herbs that have the capacity to exterminate COVID-19 in Nigeria, Africa, and the world at large.

REFERENCES

[1] Akintimehin, O.O., Eniola, A.A., Alabi, O.J., Eluyela, D.F., Okere, W. & Ozordi,E. (2019). Social capital and its effect on business performance in the Nigerian informal sector. Heliyon 5 e02024

[2] Amare, M., Abay, K.A., Tiberti, L. & Chamberlin, J. (2020). Impact of COVID-19 on Food Security. Panel Data Evidence from Nigeria. IFPRI Discussion Paper 01956.

[3] Asante, L.A. & Mills, R.O. (2020). Exploring the Socio-Economic Impact of COVID-19 Pandemic in Marketplaces in Urban Ghana, Africa Spectrum, 55(2): 170-181, Doi: https://doi.org/10.1177/0002039720943612

[4] Avenyo, E.K, Francois, J.N. & Zinyemba, T.P. (2020). COVID-19, lockdowns, and Africa's informal sector: Lessons from Ghana. UNU-MERIT Working papers 2020-028

[5] Aydin, L. & Ari, I.(2020). The impact of Covid-19 on Turkey's non-recoverable economic sectors compensating with falling crude oil prices: A computable general equilibrium analysis. Energy Exploration & Exploitation, 38(5): 1810-1830

[6] Baker, S.R., Bloom, N., Davis, S.J., & Terry, S.J (2020). Covid-induced economic uncertainty, National Bureau of Research working paper 26983.

[7] Bennihi, A.S. & Bouriche, L. (2020). Assessment of the impact of COVID-19 pandemic on the Algerian economy: The importance of the informal economy, Les Cahiers du Cread, 36(3): 349-371, Available online at https://www.researchgate.net/publication/343040474_Assessment_Of_The_Impact_Of_Covid19_Pandemic_On_The_Algerian_Economy_The_Importance_Of_The_Informal_Economy

[8] Buheji, M. & Ahmed, D. (2020). Foresight of Coronavirus(COVID-19)Opportunities for a Better World. American Journal of Economics, Vol.10(2): 97-108

[9] Buheji, M (2019c) 'The Trust Project' Building better accessibility to Healthcare Services through Behavioural Economics and Inspiration Labs, International Journal of Economics, Commerce and Management, United Kingdom, 7(2): 526-535

[10] Chinery, N., Sayne, A. & Gillies, A. (2020). Nigeria: Initial assessment of the impact of the coronavirus pandemic on the extractive sector and resource governance, Natural Resource Governance Institute

[11] Centre for the study of economies of Africa-CSEA (2020). COVID 19 and the Informal Sector in Nigeria: the Socio-economic Cost Implications. http://cseaafrica.org/covid-19-and-the-informal-sector-in-nigeria-the-socio-economic-cost-implications/#_ftn2

[12] Elgin, C. & Oyvat, C. (2013). Lurking in the cities: Urbanization and the informal economy: Urbanization and the informal economy, Department of Economics, Bogazici University Working papers, (2013/10): 1 - 15

[13] Gibson, B. & Kelly, B. (1994). A classical theory of the informal sector. The Manchester School, (63): 81-96

[14] Huang, G., Xue, D. & Wang, Bo. (2020). Integrating theories on informal economies: An examination of causes of urban informal economies in china. Sustainability, (12): 27-38

[15] Khambule, I. (2020). The effects of the COVID-19 on the South African informal economy: Limits and pitfalls of government responses, Loyola Journal of Science, 34(1)

[16] International Labour Organization (2018). Women and Men in the Informal Economy: A Statistical Picture. Third Edition. Geneva: ILO Office

[17] Lapeyre, F., Behrendt, C., Bonnet, F., & Travieso, M.M. (2020). COVID-19 crisis and the informal economy: Immediate responses and policy challenges. International Labour Organisation, Avaliable on https://www.researchgate.net/publication/341509302_COVID-19_crisis_and_the_informal_economy_Immediate_responses_and_policy_challenges

[18] Mukhtarova, T. (2020). COVID-19 and the Informal sector: What it means for women now and in the future, Georgetown Institute for women, peace and security, Policy Brief, Avaliable online at https://giwps.georgetown.edu/wp-content/uploads/2020/07/GIWPS_Covid19_July2020.pdf

[19] Narula, R. (2020). Policy opportunities and challenges from the COVID-19 pandemic for economies with large informal sectors, Journal of International Business Policy, (3): 302-310, Available online at https://link.springer.com/content/pdf/10.1057/s42214-020-00059-5.pdf

[20] Nicola, M., Alsafi, Z., Sohrabi C., Kerwan, A., A;-Jabir, A., Iosifidis, C., Agha, M. & Agha, R.(2020). The Socio-economic implications of the coronavirus pandemic (covid-19): A review. International Journal of Surgery (78): 185-193

[21] Nnabuife, E.K., Okoli, I.E.N. & Anugwu, C.C.(2020). Informal sector and Nigerian economic prospects: The COVID-19 experience, European Journal of Business and Management Research, 5(4): 1-5

[22] Odundajo, G.O., Akintoye, I.R. & Olayinka, I.M. (2019). Taxing informal sector and revenue generation in Nigeria, International Journal of Commerce and Management Research, 5(4): 81-87

[23] Ohajinwa,C., Peijnenburg, W., & Vijver, M. (2017). Health Risks Awareness of Electronic Waste Workers in the Informal Sector in Nigeria. International Journal of Environmental Research and Public Health, 14, 911

[24] Omeje, A.N. & Abugu, S.O. (2015). The impact of scholarships on students' academic performance: A case of tertiary institutions in Enugu State, Nigeria, Bulletin of Business and Economics, 4(2): 93-104

[25] Omeje, A.N., Mba, A.J., & Ugwu, M.O. (2020). Youth empowerment and entrepreneurship in Nigeria: Implication for economic diversification, SAGE Open, October-December 2020: 1–12, DOI: 10.1177/2158244020982996

[26] Omisakin I.S. (1999). Factors influencing success or failure of an enterprise in informal sector, NISER Monograph series (6): 11-54

[27] Onwe, O.J. (2013). Role of the informal sector in development of the Nigerian economy: Output and Employment approach. Journal of Economics and Development Studies, 1(1): 20-74.

[28] Oruonye, E.D., Idris, M. & Ahmed, Y.M. (2020). Impact of COVID-19 on informal sector and livelihood sustainability in Nigeria: A conceptual approach, Jalingo Journal of Social and Management Sciences, 2(4): 195-204

[29] Otekhile, A. & Matthew, O. (2017). Contribution of the informal sector to economic activities in Lagos, Nigeria. 20th International Scvientiic Conference "Enterprise and Competitive Environment", March 9-10, Brno, Czech Republic

[30] Ozili, P.K. (2020). COVID-19 pandemic and economic crisis: The Nigerian experience and structural causes. Munich Personal RePEc Archive, No. 99424

[31] Schneider, F., (2002). Size and measurement of the informal economy in 110 countries around the World. In: Paper presented at the Workshop of Austrian National Tax Centre, Australian National University, Canberra, Australia, 17 July 2002. www .amnet.co.il/attachments/informal_economy110.pdf.

[32] Sohrabi, C., Alsafi, N., O'Neill, Z., Khan, M., Kerwan, A., Al-Jabir, A. et al., World Health Organization declares global emergency: a review of the 2019 novel coronavirus (COVID-19), Int. J. Surg. 76 (2020 Apr) 71–76

[33] Sparks, D.L. & Barnett, S.T. (2010). The Informal sector in Sub-Saharan Africa: out of the shadows to foster sustainable employment and equity? International Business & Economics Research Journal, 9(5): 1-12

[34] The New York Times (2020). UN chief says COVID-19 is worst crisis since World War II, 31st March, Available Online At: https://www.nytimes.com/aponline/2020/03/31/world/ap-un-virus-outbreak-united-nations-1st-ld-writethru.html

[35] United Nations Food and Agricultural Organization – UNFAO (2020). Impact of COVID-19 on informal workers, United Nations Food and Agricultural Organization – UNFAO, Rome, https://doi.org/10.4060/ca8560en

[36] United Nations Medical Director (2020). COVID-19 pandemic guidelines, United Nations, Available Online At: https://www.un.org/sites/un2.un.org/files/coronavirus_unmdpandemicguide_2020-03-31_final.pdf

[37] WHO (2020). WHO, Disease Outbreaks. Geneva: WHO.

[38] WHO (2020a). WHO Director-General's opening remarks at the media briefing on COVID-19 – March 11 2020. https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---

[39] Wegerif, M.C.A. (2020). Informal food traders and food security: Experiences from the COVID-19 response in South Africa, Food Security, Available online at https://link.springer.com/content/pdf/10.1007/s12571-020-01078-z.pdf

[40] World Bank (2020a). Covid-10 (Coronavirus) drives Sub-Saharan Africa toward first recession in 25years.https://www.worldbank.org/en/news/press-release/2020/04/09/covid-19-coronavirus-drives-sub-saharan-africa-toward-first-recession-in-25-years

[41] Yusuff, O., S. (2011). A theoretical analysis of the concept of informal economy and informality in developing countries. European Journal of Social Sciences, 20(4): 624-636

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