
THE EFFECT OF COVID-19 ON REVENUE AND PRODUCTIVITY OF SOME SELECTED INDUSTRIES OF THE ECONOMY: A CASE STUDY OF RIVERS STATE

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ABSTRACT: *The study assessed the effect of COVID-19 pandemic on revenue and productivity of some selected industries in Rivers State. The study used primary source of data collection. Self-designed questionnaires were distributed to gather relevant information from 200 respondents. The data collected were analyzed using simple percentage method. The hypotheses were tested by using Pearson product moment correlation coefficient (PPMC) a parametric statistical tool. The study revealed that COVID-19 pandemic has reduced significantly revenue and productivity of industries in Rivers State. The research recommended that government should adopt a balance mixed of fiscal and monetary policies capable of improving aggregate demand, and government should also encourage investors and businesses owners through bell out fund and incentives and make policy that will enhance and develop micro enterprise in the country and factors combating good business environment and ease of doing business in Nigeria should be improved in order to cushion the effect of COVID-19 pandemic on revenue and productivity of industries in Rivers state,*

Key word: *COVID-19 pandemic, Revenue, Productivity, industries., Economy*

INTRODUCTION:

The evil wind of COVID-19 around the globe and its effect on socio-economy cannot be underestimated. The COVID-19 pandemic has imposed serious economic challenges in Nigeria and the world at large. The pandemic spread so fast like a wild fire from Wuham in China to all the nooks and cranny of the world. In Nigeria COVID-19 pandemic has infected all the states across the federation.

Since the emergence of the pandemic, several countries in the world roll out stringent measures in order to curb the spread of the virus. Nigeria rushed to close its schools, markets, placed travel restrictions and also imposed dusk to dawn curfew among and few measures. Travel restrictions were imposed and borders were closed which affected the movement of goods and human across borders of state.

The consequence of COVID-19 on the Nigerian economy is shocking and severe, its effect were sharp decline in productivity, revenue and jobs leading to lower incomes. These massive production disruption that led to a lower supply of goods and services that reduces overall hours worked, leading to lower incomes (UNDP China 2020) is linked to the rushed imposition of total lock down in various state and cities of the federation which is dominated with huge population of informal sector participant that rely on daily activities for survival.

According to the president of Nigeria Muhammadu Buhari in his national broadcast to announce the partial lifting of the lock down acknowledged the economic difficulties that the pandemic has caused, confessing that countless businesses have shot down and citizens had lost their livelihood.

However, the effect of COVID-19 in Nigeria reveals that virtually all the sectors were badly affected and the few that were operational did not perform optimally. The study is aimed at determining the extent to which COVID-19 has affected revenue and productivity in some selected industries in Port Harcourt. Based on the objectives of the study, research questions were drawn thus; Does COVID-19 affects revenue and productivity in some selected industries in Port Harcourt. The study will be analyzed by the hypothesis stated below. H_{01} : COVID-19 does not significantly affect industrial revenue and productivity negatively.

THEORETICAL AND EMPIRICAL LITERATURE:

This study will anchor its theory on the Keynes's theory of aggregate demand. The Keynes's theory of the determination of equilibrium income and employment focuses on the relationship between aggregate demand and aggregate supply. According to Keynes equilibrium employment (income) is determined by the level of aggregate demand in the economy, given the level of aggregate supply. Thus the equilibrium level of employment (income) is the level at which aggregate supply is consistent with the current level of aggregate demand. The theory believes that "demand creates its own supply" rather than the classical claim of supply creates its own demand. The Keynesian perspective focuses on aggregate demand; the idea is that firms produce output only if they expect it to sell. Then changes in aggregate demand translate directly into changes in GDP, with no change in price level.

Due to COVID-19 crisis in Nigeria, the components of aggregate demand were affected. Aggregate demand is the sum of four components: consumption, investment, government spending and net export. $Y = C + I + G + (X-M)$ The consumption component (C) recorded fall in consumption as a result of poor expectation of future income as well as fall in the value of assets such as stock during the lock down, these have affected consumption. The investment

component (I) witness sharp decline in both foreign direct investment and local investment these may be attributed to poor expected future profitability of investment spending. The government expenditure component (G) observed a rise in government spending as a result in increase in health care expenditure and spending on palliatives to cushion the effect of COVID-19 on the citizens. Revenues were also in decline because of the pandemic. The net export component (X-M) without doubt recorded a decrease in net export, there was disruption in supply chain for exports, border closure to non-essential trade as well as limited market for export due to fall in global demand. According to National Bureau of Statistics as cited in Oyekanmi (2020), Nigeria foreign direct investment (FDI) in the second quarter of 2020 is \$1.29b representing a decrease of 78.6% compared to the corresponding quarter in 2019 which is \$6.05b. According to the report, \$1.29b represents the lowest inflow recorded since first quarter 2017 when capital inflow of \$908.3m was recorded. This may be linked by the covid-19 pandemic crisis.

The decline in production due to the lockdown has reduced aggregate demand, but efforts were made by the various governments to bolster aggregate demand through increase in government expenditure and tax cut for business. Public budget increased from #8.83 trillion to #10.59trillion in 2019 and 2020 respectively. Small business have been exempted from company income tax and tax rate for medium sized businesses has been revised downward from 30% to 20%

The COVID-19 pandemic has caused so much havoc in the economy of Nigeria. The Lagos Chamber of Commerce and Industry (LCCI) revealed the following fallout of COVID-19 pandemic thus: extraordinary collapse in commodity prices, capital flight, disorder in the capital market, supply chain disruption across sectors. In the same token, the oil and gas sector also suffered the blow of the pandemic as there was a crash in oil price due to the decline in global demand for Brent crude. The slump in global oil price has forced and adjusted the crude oil price from \$57 per barrel to \$30 even down to \$25 per barrel. This may be attributed to COVID-19 pandemic across the world.

The Aviation sector or industry is also one of the industries that were worst hit by the pandemic. According to the Nigeria Minister of Aviation, Hadi Sirka, said, over 100,000 jobs had been lost in the Aviation sector. While speaking to the presidential task force on COVID-19 at the daily briefing in Abuja on Thursday, May 7 Sirka maintained that COVID-19 pandemic has dealt with the aviation sector severely, saying that airlines have lost about #17b monthly since the industry was grounded.

The other sector that was affected negatively during the pandemic lock down is the banking industry. The sector witnessed staggering operation and low turnover and revenue during the lock down. The plan retrenchment of staff by some of the banks due to unfavorable business environment was discontinued by the central bank in order to cushion the effect of the pandemic on the unfortunate staff.

The hospitality and entertainment industry experienced the worst hit. The pandemic which is synonymous to lockdown goes symmetrical with dusk – down curfew manifested in the closure and grounding of hotels, parks, cinemas etc. the sector was affected negatively as all

the firms and recreational center within the industry were grounded by the pandemic. Many other sectors were also affected as a result of COVID-19 pandemic.

RESEARCH METHODOLOGY

The design of this work was descriptive survey method which enables the researchers to gather data using questionnaire. The questionnaire was distributed randomly to 140 staffs of 5 selected manufacturing firms, 5 hotels, 3 cinema and 5 different transport company. While 60 copies of the questionnaires were distributed to managements of the companies in Port Harcourt.

The instrument used for this work was a self-designed questionnaire. It was designed in such a way that the respondents answered the questions without assistant from the researchers. The Likert 4 point was employed. It include (1) strongly agreed (2) agreed (3) somehow disagreed (4) disagreed. "An instrument is reliable when it shows consistency and stability in measuring what it is supposed to measure" (Okeke and Nwabueze 2016).

A total of 200 copies of the self-designed questionnaire were personally distributed by the researchers to the study respondents. A total of 60 copies and 140 copies were given to the managements and staff to each of the selected industries respectively, thus: manufacturing, transport and hospitality industries. The 200 copies of the questionnaire distributed by the researchers were all retrieved. The data collected was analyzed using a descriptive statistical tool of simple percentage and a parametric statistical tool of Pearson Product Moment Correlation Coefficient (PPMC). The simple percentage is used to answer research questions. While PPMC statistical tool was used to test the hypotheses.

The formula for PPMC is stated as follow

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{N\sum x^2 - [\sum x]^2} \sqrt{N\sum y^2 - [\sum y]^2}}$$

RESULTS:

Table I: Questionnaire Distributed and Retrieved

Respondent	No. Distributed	No' Retrieved	% retrieved
Management	60	60	30%
Staff	140	140	70%
Total	200	200	100

Source survey data 2020

Research question I: Does COVID-19 affected revenue of the industries negatively?

$$SA = \frac{142}{200} \times \frac{100}{1} = 71\%$$

$$A = \frac{40}{200} \times \frac{100}{1} = 20\%$$

$$SHA = \frac{10}{200} \times \frac{100}{1} = 5\%$$

$$DA = \frac{8}{200} \times \frac{100}{1} = 4\%$$

The figures above indicated that out of 200 respondents, 142 which represent 71 percent strongly agreed, 40 which represent 20 percent said that they agreed, 10 which represent 5 percent said that they some-how agreed that COVID-19 has affected industries revenue negatively in Port Harcourt. while 8 which represent 4 percent disagreed that COVID-19 has affected industries revenue negatively in Port Harcourt.

TEST OF HYPOTHESIS:

Null hypothesis (Ho₁): COVID-19 does not significantly affect industrial revenue negatively in Port Harcourt.

Alternative hypothesis (HA₁): COVID-19 does significantly affect industrial revenue negatively in Port Harcourt.

Statistical Tool: Pearson product movement correlation coefficient

Level of significance 0.05

Degree of freedom n-2

Rejection region: Reject Ho, if t-calculated is greater than t-critical value.

Table 2: Correlation Coefficient between COVID-19 and Revenue..

S/N	Staff	Managements	xy	x ²	y ²
1	30	12	360	900	144
2	25	10	250	625	100
3	20	9	180	400	81
4	15	8	120	225	64
5	13	6	78	169	36
6	10	5	50	100	25
7	9	4	36	81	16
8	8	3	24	64	9
9	6	3	18	36	9
10	4	2	8	16	4
	140	60	1124	2616	488

Source survey data 2018:

n = 10

Σx = 140

Σy = 60

Σxy = 1124

Σx² = 2616

Σy² = 488

$$r = \frac{N\Sigma xy - \Sigma x \Sigma y}{\sqrt{N\Sigma x^2 - [(\Sigma x)^2] [n(\Sigma y^2) - (\Sigma y)^2]}}$$

$$\frac{10(1124) - 140(60)}{\dots}$$

$$r = \frac{\sqrt{10[(2616) - (140)^2][10(488) - (60)^2]}}{\sqrt{(26260 - 19600)(4880 - 3600)}}$$
$$r = \frac{11240 - 8400}{\sqrt{8396800}}$$
$$r = \frac{2840}{\sqrt{8396800}} = \frac{2472}{2897.723} = 0.85$$

$$t = \frac{\sqrt{n-2}}{1-(r)^2} = \frac{\sqrt{10-2}}{1-(0.85)^2}$$
$$= \frac{\sqrt{10-2}}{1-0.7225}$$
$$= \frac{\sqrt{8}}{0.2775}$$
$$= \sqrt{28.8288}$$
$$= 5.37$$

At degree of freedom of 8, at 0.05 level of significance, t-critical value is 2.306 and t-calculated value is 5.37

Decision Rule: Reject H_0 , if t-calculated is greater than t-critical value.

Conclusion: Since, t-calculated is greater than t-critical value; we therefore reject the Null hypothesis and accept the alternative which states that COVID-19 does significantly affect revenue in Rivers State negatively.

DISCUSSION OF FINDINGS

Based on the analysis of data gathered it was found that COVID-19 has significantly reduced the revenue and productivity of industries in Rivers State. This reduction in revenue and output has affected the price of food and loss of job there by increasing poverty rate in Rivers State. Since industries were not producing at their optimum capacity, their revenue has been reduced drastically.

CONCLUSION

The overall effect of COVID-19 to the economy of any nation is alarming, the pandemic has drastically reduced output and revenue of industries, its adverse effect were massive production disruption that led to a lower supply of goods and services, loss of jobs as well as high price of goods and services, low income and poor standard of living of citizens.

RECOMMENDATION:

With reference to the findings and conclusion of the study, the following were recommended

1. Government should adopt a balance mixed of fiscal and monetary policies capable of improving aggregate demand via various transmission mechanisms.

2. Government should encourage investors and businesses owners through bell out fund and incentives such as tax holiday and soft loan in order to cushion the effect of COVID-19.
3. To mitigate the effect, government in all levels should make policy that will enhance and develop micro enterprise in the country.
4. All factors combating good business environment and ease of doing business in Nigeria should be improved.

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