
Socio-Economic Effects of Coronavirus Disease 2019 (COVID-19) on Logistics Industry in a Developing Nation

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ABSTRACT: *Logistics plays a vital role in the growing global economy and increased competition. Investment in logistics business enhances the economic growth of a nation. Consequently, COVID-19 virus crippled the economy. Thus, leading to recession. The aim of this research examined the socio-economic effects of Covid-19 virus on the logistics sectors in Nigeria. Both primary and secondary data were used in which descriptive and inferential statistics were adopted. Survey design was used for the inferential statistics. Questionnaire was used as instrument to collect information from 120 respondents. The result showed that the Gross Domestic Product (GDP) decline because of the COVID-19 pandemic. Also, a relationship was established between COVID-19 and Logistic sector at $r = 78.1\%$. It was concluded that COVID-19 pandemic has limited the logistics sector in terms of logistics service, revenue generation and employment opportunities. It was recommended that a less tax burden should be considered by the government to support the logistics sector.*

KEYWORDS: logistics sector, COVID-19, Gross Domestic Product (GDP), economic growth

INTRODUCTION

Logistics plays a significant role in the change and advancement of economic indicator and thus, contribute significantly to economic growth via the Gross Domestic Product (GDP) (Hilda, 2020). At the macro level, the logistic industry has provided a significant competitive advantage in related global trade. At the micro-level, it has helped to optimise the existing production and distribution processes based on the same resources through management techniques for promoting the efficiency and competitiveness of enterprises (Tseng, Yue and Taylor, 2005). Logistics deals with the design, implementation, and control of the movement and storage of commodities, services, and information within a supply chain and between points of origin and consumption.

Unfortunately, COVID-19 has marred the logistics businesses which in turn have its impact on the economy. The government enacted measures such as restrictions and bans to minimize the spread from country to country and as well social distancing to curb the spread of the coronavirus. This measure put in place has its effect on the transportation and logistics industry. Ozili and Arun (2020) asserted that COVID -19 is a disease caused by SARS-COV-2, a novel virus that is an airborne disease that is from the species of SAR.

LITERATURE REVIEW

Concept of Logistics

Logistics is defined as the timely positioning of resources, and it is also regarded as the designing and managing of a system to control the flow of material throughout a corporation. Because of geographical barriers, this is an important aspect of a multinational organization. An international organization's logistics comprises raw material mobility, organizing and coordinating flux into and out of other nations, transportation options, transportation costs, packaging products for shipment, storing products, and managing the entire process.

The word 'logistics' comes from the French word 'loger,' which refers to the art of war involving the movement and supply of armies. Logistics is defined as "part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements," according to the Council of Logistics Management (1991). Johnson and Wood's definition (quoted in Tilanus, 1997) interprets logistics, inbound logistics, materials management, physical distribution, and supply-chain management using "five critical key words." The entire process of materials and products moving into, through, and out of a company is referred to as logistics. The movement of material received from suppliers is referred to as inbound logistics. The flow of materials and components throughout a company is referred to as materials management. *The transportation of goods outward from the end of the production line to the client is referred to as physical distribution. Logistics, according to Mustra (2011), is one of the most essential aspects of national competitiveness. Quality logistic services and infrastructure have a significant impact on the ease with which commodities may be transported across countries. Inefficient logistics, on the other hand, leads in increased expenses in terms of time and money, negatively hurting countries and businesses, or limiting turnover, as shown by Hausman et al (2005).*

Logistics sector and economic growth

Logistics sectors play a strategic role in the growing global economy and increased competition. Logistics sector includes agricultural, Manufacturing, Construction, Transportation, health, telecommunication etc. Investment in logistics sector and its infrastructure enhances the economic growth of a nation. Various transportation networks, storage systems, information and communication technologies, packing services, and financial supply chain management are examples of logistics investments (Pinar, 2015). The economic outputs of logistics investments are numerous; they are particularly important in terms of boosting trade and supply chain integration, greater utilization of national transportation assets, increased employment prospects, and lower costs in more competitive imports and exports. While present institutional infrastructure investments are insufficient for load distribution, investments must be undertaken in a larger context that includes logistics support operations (Rodrigue, 2012).

Researchers such as Wang (1997), Demurger (2001), and Chun (2010) discovered that logistics investment had an impact on economic growth. In addition, investments in logistics infrastructure have boosted logistics capacity, increased efficiency, improved service quality,

created a secure domain, and produced an increase in added value. As a result of this circumstance, low logistical costs, fast transportation times, and the creation of new job prospects have become possible. As a result, this process has increased efficiency and competitiveness force for countries and so it has allowed to economic growth.

The emergence of Corona Virus Pandemic (Covid-19)

COVID -19, according to Ozili and Arun (2020), is a disease caused by SARS-COV-2, a novel virus that is an airborne disease from the SAR species. Fever, nausea, and vomiting, as well as a chill, cough, difficulty breathing, exhaustion, sore throat, and diarrhoea are symptoms (Huang et al., 2019). This frequently results in heart damage, acute respiratory distress syndrome, and, in the worst-case scenario, death (Wang et al, 2020). Furthermore, the elderly are not exempt. Those who have underlying medical issues are at a higher risk of dying (Chen, 2020). The effect of COVID-19 outbreak can be seen on the global death toll which includes several confirmed cases, death cases and recovered case which directly influenced the world economy. The effect of this pandemic can be seen on the global death toll which includes several confirmed cases, death cases and recovered case. Worldometer provides the global statistics of COVID-19 cases. Table 1 below showed that the US has the highest confirmed cases and confirmed deaths. The reported statistics is obtained as of 23rd April, 2020.

Table 1:

Countries	Confirmed cases (Total)	Confirmed Deaths (Total)	Recovered (Total)
Global	2,656,391	185,156	729,815
US	849,092	47,681	84,050
Italy	187,327	25,085	54,543
China	82,798	4,632	77,207
Iran	87,026	5,481	64,477
Spain	213,024	22,157	89,250
Germany	150,729	5,315	103,300
UK	133,495	18,000	-
Canada	40,190	1,974	13,986
France	159,877	21,340	40,657
India	21,797	681	4,376
South Korea	10,702	240	8,411
Turkey	98,674	2,376	16,477
Russia	62,773	555	4,891
Brazil	46,182	2,924	25,318
South Africa	3,635	65	1,055
Nigeria	873	28	197
Tunisia	909	38	190

Worldometer (2020)

Nigerian government through her agency known as the Nigeria Center for Disease Control (NCDC) and World Health Organization (WHO) officially declared this disease as Pandemic and as such strategic measures should be adopted to curb it spread globally. People can become infected by one of two routes: Secretions can be easily conveyed into neighbouring people's mouths or nostrils (less than 2 metres) and by contacting a surface or object contaminated with respiratory secretions, such as a doorknob, and then touching one's own mouth, nose, or eyes (NCDC, 2019). As a result, the government implemented efforts to prevent COVID-19 from spreading from one nation to the other, as well as social distance to prevent the transmission of the corona virus. The aim of this social distancing limits those that infected with the virus not to encounter those without virus. Various policies have been developed to reduce daily interaction with the infected people. Awareness was made to reduce the spread of the virus. Debates and discussions were viewed on many televisions and several radio stations. According to World Bank (2020) and Economic Commission for Africa (2020), Africa is the poorest continent and is at a high risk of COVID-19 because it lacks robust policy intervention. Lower-income communities that rely on transportation, who do not have funds yet live in large homes or in informal settlements are more vulnerable to the pandemic. IMF (International Monetary Fund) (2020). Farmers were ban from going to farm due to ban on movement. So, raw material and farm produces were stop from accessing the urban canter due to COVID-19. According to Mehmet (2020), United State experienced recession in the second quarter of 32% annual rate between April and June 2020 while United Kingdom and other European countries had 20% and 10% respectively. Vessels were not allowed into various country accessible by sea when the pandemic is on the high side. And as such, captains, seafarers and others were restricted and remained on high sea with goods on board the vessel. The restriction also influenced freight forwarding activities in the port which has to do with the cargo clearance at the port. Businesses at the port premise were closed due to restriction on movement except for those on essential duties. Ban on interstate travel affects the transporters and the commuters. Manufacturing companies were unable to have access to raw material. At the height of the pandemic, most international travels were suspended, and some were cancelled, and the world was brought to a standstill.

METHODOLOGY

Lagos State was used for the purpose of this study. Lagos State is a Nigerian state in the southwest. It is termed as the most populated and the smallest of the 36 states in terms of area. Lagos State is bordered to the south by the Bight of Benin and to the west by the international boundary with the Benin Republic, and to the east and north by Ogun State, making it the sole Nigerian state with only one other state. Lagos State, being a major financial center, is one of the most important states in the country, and it would be one of Africa's greatest economies if it were a country with a gross domestic product of \$84 billion, equal to Ghana's \$75 billion, Angola's \$70 billion, and Ethiopia's \$93 billion. Lagos is also a major cultural, educational, and transportation center for Nigeria and Sub-Saharan Africa. Both primary and secondary data were used in which descriptive and inferential statistics were adopted. Survey design was used for the inferential statistics. Questionnaire was used as instrument to collect information from 120 respondents. Data from online CBN site was used as the secondary data

RESULT

The result in figure 1 shows the trend of Gross Domestic Product (GDP) from 2010 to 2020. Consequently, there was a steady decline from 2019 to 2020. This decline is because of COVID-19 virus. It affects all the sectors contributing to the Gross Domestic Product of a nation

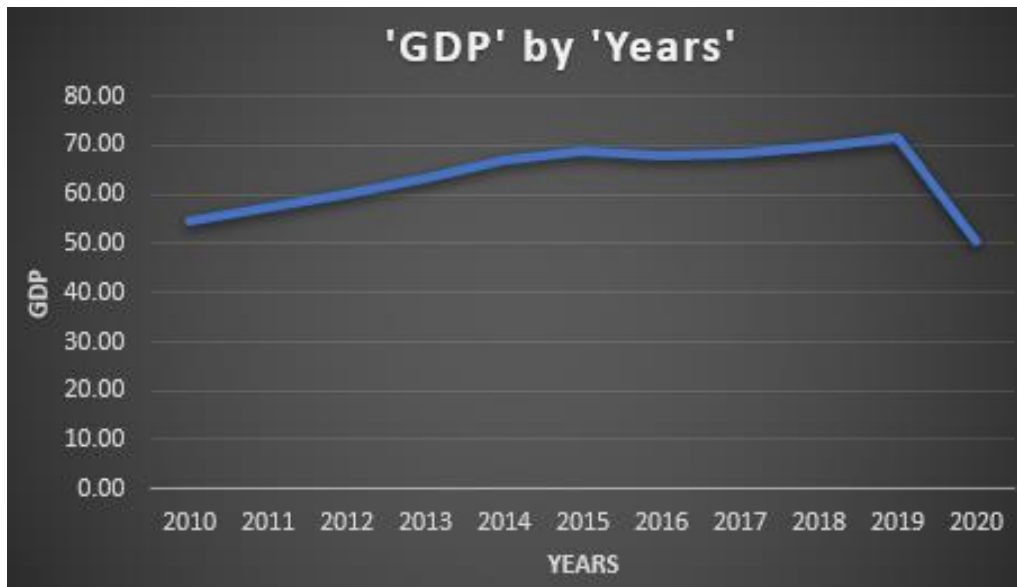


Figure 1: GDP by year

Source: CBN (2022)

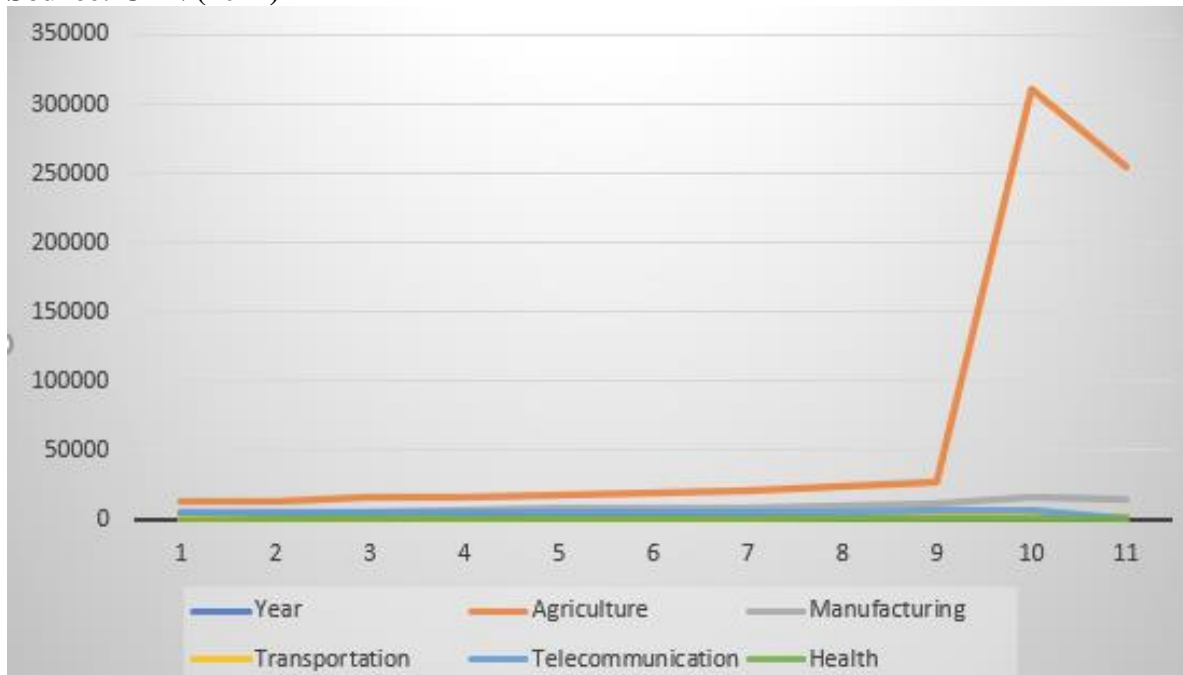


Figure 2: GDP in the Logistics sector

Source: CBN (2022)

Figure 2 shows the GDP in the logistics sector in Nigeria. Although there was a steady decline in other sector such as manufacturing, transportation, telecommunication, and health but the rate of decline is more visible in the agricultural sector. Olaomi et al., (2020) opined that the overall economic wellbeing and income level were affected by COVID-19.

		COVID-19	LOGISTICS SECTOR
COVID	Pearson Correlation	1	.781**
	Sig. (2-tailed)		.000
	N	120	120
SERVICE	Pearson Correlation	.781**	1
	Sig. (2-tailed)	.000	
	N	120	120

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Author's compilation (2022)

The result showed that there is a relationship between COVID-19 and Logistic sector at $r = 78.1\%$ while 21.9% cannot be accounted for. The COVID-19 pandemic had several consequences for the logistics industry, including revenue generation, tax income, logistical services, and job creation. According to Beland et al. (2020) revealed the impact of COVID-19 on employment and salaries in the United States in the short term. COVID-19, according to their findings, increased unemployment, decreased hours worked and labour force participation while having no substantial impact on pay. Men, younger employees, Hispanics, and workers with less education had more negative effects on labour market outcomes. Similarly, the COVID-19 pandemic is expected to put forty-nine million people into extreme poverty globally by 2020, with about twenty-three million in the Sub-Saharan desert (World bank, 2020). COVID-19 pandemic had diverse effects on transporters' income levels and overall economic well-being in the study area Olaomi et al. (2020). The International Air Transportation Association (IATA) revealed that the air travel industry loses US\$113 billion if the pandemic outbreak was not contained as quickly as possible.

CONCLUSION AND RECOMMENDATIONS

It was concluded that the COVID-19 pandemic had several setbacks for the logistics industry, including revenue generation, tax income, logistical services, and job creation. The following recommendations were made

1. Implementation of workers' occupational health and safety measures
2. A less tax burden should be considered by the government to support the logistics sector
3. Investment in logistics infrastructure should be considered to boost the logistics sector.

References

- Arvis, J.F., Mustra, M., Panzer, J., Ojala, L. and Naula, T.(2007) *Connecting to Compete: Trade logistics in the global economy* World Bank: Washington.
- Béland, L.-P., Brodeur, A., & Wright, T. (2020). *The short-term economic consequences of COVID-19:exposure to disease, remote work and government response*. IZA Discussion Paper Series (13159).
- Chu, Z. (2010), Logistics and economic growth: a panel data approach. *The Annals of Regional Science*, 49, 87-102.
- Demurger, S. (2001), Infrastructure development and economic growth: an explanation for regional disparities in China? *Journal of Comparative Economics*, 29(1), 95-117.
- Economic Commission for Africa (ECA) (2020). Economic impact of the COVID-19. Africa.<http://www.uneca.org/sites/default/file>.
- Hilda Richard (2020). The contribution of the logistics to the economic growth: evidence from Tanzania (2007-2006). *Institute of Finance Management Tanz*.
- International Monetary Fund (IMF) (2020). *IMF Regional economic outlook: Sub-Sahara Africa: COVID-19; An unprecedented threat*. International Monetary Fund, Washington.
- Marti L., Puertas R., and Garcia L (2014). Importance of the logistics performance index in international trade. *In Applied Economic* 46 (24).www.researchgate.net
- Mehmet B (2020). COVID-19 recession: the global economy in crisis. International Conference on Eurasian Economies. Baku. Azerbaijan.
- Navickas, V., Sujeta, L., Vojtovich, S. (2011), Logistics systems as a factor of country's competitiveness. *Economics and Management*, 16, 231-237.
- Nistor F., and Popa C. (2014). The role of transport in economic development. Published by "Mircea cel Batran" *Naval Academy Press*. Vol XVII, 2014, issue 2
- Olaomi, O. M., Arigbede O.O., and Arigbede A.Y (2021). Socio-economic analysis of the impact of corona virus disease (COVID-19) pandemic on transporters in Kaduna State. *Nigerian Journal of Logistics and Transport*. Vol 2
- Ozil P., and Arun T., (2020). Spill over of COVID-19: impact on the global economy. www.researchgate.net
- Pinar H (2015). The impact of developments in the logistics sector on economic growth. The case of OECD countries. *International Journal of Economics and financial issues*. vol 5 (2), pp 523-530. ISSN: 2146-4138
- Rodrigue, J.P. (2012). The Benefits of Logistics Investments: opportunities for Latin America and the Caribbean. Inter-American Development Bank, Infrastructure and Environment Sector, *Technical Notes*. p11.
- Tseng Yung –yu, Wen Long Yue and Michael A.P.T (2005). The role of transportation in logistics chain. *Proceedings of the Eastern Asia Society for Transportation studies*. vol5, pp. 1657-1672. www.researchgate.net/publication
- Wang, A. (2010). Research of Logistics and Regional Economic Growth. *iBusiness*, 2, 395-400.
- World Bank (2020). *The impact of COVID-19(Corona Virus) on global poverty: why Sub-Saharan Africa might be the region hardest hit*