

BOOK CHAPTER | Technoeconomic Revolution

Indigenous Technoeconomic Revolution for Addressing Post Covid-19 Economic Recession In Nigeria

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Abstract

This paper examines indigenous technoeconomic revolution as a panacea to economic recession in the post COVID-19 in Nigeria. The existing state and position of the indigenous technology transformation vis-a-vis its capacity in pulling a dwindling economy out of recession during and after COVID-19 were looked into. The current inflation rate and causes of economy recession in Nigeria was highlighted, and consumer price spike from the year 2015 to 2021 of some common domestic commodities were evaluated. The paper crowned it all by suggesting “technological revolution” strategies in mitigating the effects of economic recession in Nigeria during and after the novel global pandemic (COVID-19) era.

Keywords: Indigenous technoeconomic revolution, economic recession, global pandemic, Nigeria.

Introduction

The present looming economy woes that is hovering all over the country calls for serious concern. Pulling an economy out of recession, technological revolution (transformation) is considered to be one of the key driving forces and its development (Park et al., 2011). According to Onipede (2010) "Engineering and technological development are generally regarded as catalyst for national development because they offer among other things the necessary support for change in all the major sectors of the economy." But in recent times, claims and counter claims have been made on the best avenue to drive the country out of the current economic woes. The current economic ulcer bedeviling the nation currently call for serious concern by the economy handlers; especially, after the post Corona Virus 2019 (COVID-19) era. Recession is a term in economics that no nation wants to be associated with because the inability to manage it properly may lead to depression and frustration which is not good for any country. Recently, Nigeria Minister of Finance, Budget and National Planning (by de facto Minister of Economy), Zainab Shamuna Ahmed has warned Nigerians that the country's economy is driving gradually into recession due to the national lockdown caused by the global pandemic (COVID-19).

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Economic Recession in Nigeria

Economic recession is a time of economic slowdown offering low output, liquidity and unemployment (Fapohunda, 2012) as witness currently in Nigeria. It is characterized by its length, abnormal increases in unemployment, falls in the availability of credit, shrinking output and investment, numerous bankruptcies, reduced amounts of trade and commerce, as well as highly volatile relative currency value fluctuations, mostly devaluations, financial crises and bank failure (Fapohunda, 2012). Also, according to National Bureau of Economic Research (NBER) defined economic recession as a "significant decrease in economic activity spread across the economy, lasting more than a few months, normally visible in a real gross domestic product (GDP), real income, employment, industrial production and whole-retail sales." In fact, 94% of the Fortune 1000 across the globe, and businesses in Nigeria have been impacted and are already seeing COVID-19 disruptions (KPMG, 2020). A typical example according to online publication by Urowayino (2020), American University of Nigeria, Yola, has laid off four hundred (400) staff of the organization. Recently, Ereyitomi Thomas, a member representing Warri Federal Constituency from Delta State at the National Assembly condemned the sack of over three hundred (300) casual/back up staff of the Warri Refining and Petrochemical Company (WRPC) by Management (Urowayino, 2020), while other organizations were threatening to lay off staff if the lockdown continue (Noko, 2016):

Causes of Economic Recession in Nigeria

The economic downturn of a country can be caused by various factors but the following are the major causes of economic downturn (recession) in Nigeria:

1. **Crash of Stock:** The sudden loss of confidence by investors can create over bearing burden on the market, because investors will start draining or withdrawing capital out of businesses.
2. **Poor Management:** poor managers and economy handlers causes bad business practices which often lead to economy recession. Savings and loans balancing is of a paramount importance in an economy or else it may cause economic crisis like 1990 economic recession.
3. **Loss of Confidence in Investment and Economy:** the loss of confidence of investors and consumers in an economy will cause them to stop investing in an economy and also, stop buying which will make they move into defensive mode.
4. **Falling of Housing Prices and Sales:** this is one of the major factors that cause home owners to lose equity, "they may be forced to cut back spending as they can no longer take out second mortgages. This was the initial trigger that set of the Great Recession in 2008 (Federal Deposit Insurance Corporation, 2020)
5. **Poor Economic Planning** (Fapohunda, 2012): poor economic planning and no concrete implementation of her economic planning is the major cause of Nigeria's current recession – budget delay, exchange rate policy. Yes, the government has proclaimed the usual generalities that every government indulges itself in about diversifying the economy, improving manufacturing/mining sector.
6. **High Inflation Rate (Fapohunda, 2012):** Governments banning the importation of certain essential agricultural products like rice without considering gestation period, it is a great error. Removal of fuel subsidy shouldn't be simultaneous with the banning of these agricultural products and increase in electricity tariff. Major Causes of inflation: speculation in stock market due to budget delay, rise in oil price, almost the household items price skyrockets before, during and it will also be in post COVID-19 era as seen in the Table 1 below.

Table 1: Consumer Prices Spike from year 2015 to 2020

Description of Commodity	May 2015	May 2016	May 2017	May 2018	May 2019	May 2020	May, 2021	Price Elasticity
Tomato (Basket)	N12,000	N15,000	N22,000	N28,000	N32,000	N34,000	35,000	Low
Pepper (50kg)	N25,000	N30,000	N37,500	N42,500	N45,000	N46,500	48,000	Low
Garri (50kg)	N8,000	N10,000	N11,000	N11,500	N12,000	N15,000	25,000	Moderate
Foreign Rice (50kg)	N9,000	N14,500	N16,000	N17,500	N19,500	N29,500	N32,000	Low
Local Rice (50kg)	N5,000	N7,000	N8,500	N9,000	N12,000	N22,000	N27,500	Low
Beans (50kg)	N15,000	N16,000	N16,000	N16,500	N17,500	N18,000	N25,000	Low
Onion (Big Sack Bag)	N8,000	N10,000	N15,000	N20,000	N24,000	N30,000	N35,000	Low

Nigeria inflation rate currently stands at 18.63% that is extremely high; the highest for past last decades (Noko, 2016).

7. **High-Interest Rate** (Noko, 2016): Interest rate is between 26.77-27% is extremely high for investors. This high interest rate is discouraging investors. The poor investment culminates into high rate of unemployment in the country.
8. **High Taxation** (Noko, 2016): It is only in Nigeria that I see government charging high tax rates during economic recession. Small businesses are slaughtered with high interest rate. Both high interest and tax rate has lowered Nigeria aggregate demand.
9. **Policy Conflict** (Noko, 2016): The economic policies appear conflicting. How? High-interest rate, high tax rate are tight monetary policy measures. But government told the public it is adopting expansionary policy – budget deficit.
10. “It should be noted that the fall in oil price and production is not the major cause of Nigeria economic recession. Yes! Oil only account for 15% of Nigeria GDP. And an economic recession is measured on the basis of GDP growth and some other economic performance indicators” (Noko, 2016).

Impacts of Recession on Nigeria Economy

Prior to the impact of the meltdown in Nigeria, the banking sector was swimming in a pond of false confidence in the financial policies (Fapohunda, 2012). This affected the economy of the country. “There was a crash in the stock market, the prices of oil sky rocketed and left many financial homes depressed with the fear of an impending crunch. The crash affected the economy. It reduced the ability of the economy to fight off the underlying sicknesses of unevenly distributed wealth, agricultural depression, and banking problems. With the crash, it was apparent that the Nigerian economy faces the crippling effects of global economic crises resulting to breakdown and decline in economic vigour” (Fapohunda, 2012). Opeyemi (2008) observes that there are cases of unemployment, retrenchments, downsizing and layoffs, which served as indications to a troubled economy.

Technoeconomic Revolution

Technological transformation is a key factor for driving any nation’s economy since it represents the change of technical know-how of the people. Consequently, “technology revolution is, in general, a relatively short period in history when one technology (or better a set of technologies) is replaced by another technology (or by the set of technologies).” According to Bostroam (2006) we might define a technological revolution as a dramatic change brought about relatively quickly by the introduction of some new technology.” It is an era of an accelerated technological progress characterized not only by new innovations but also their acceptability, adoption, application and diffusion.

A difference between technological revolution and technological changes (Jaffe et al., 2012) is not clearly defined. The technological transformation can be described as an introduction of an individual (single) new technology, while the technological revolution as a period in which more new technologies are adopted at the almost same time. These new technologies or technological changes are usually interconnected. According to 3rd Kranzberg's law of technology says: "Technology comes in packages, big and small" (Kranzberg, 1986). Hence, a technological boom is an economic boom. What distinguishes a technological revolution from a random collection of technology systems and justifies conceptualizing it as a revolution are two basic features (The Free Encyclopedia, 2020):

1. The strong interconnectedness and interdependence of the participating systems in their technologies and markets.
2. The capacity to transform profoundly the rest of the economy (and eventually society)" (Perez, 2009).

The consequences of a technological revolution are not exclusively positive but also not that negative: For example, it can have negative environmental impact and cause a temporal unemployment (so called technological unemployment) (The Free Encyclopedia, 2020). The "concept of technological revolution is based on the idea (not unquestioned) that technological progress is not linear but non-adulatory. Technological revolution can be" (The Free Encyclopedia, 2020):

- i. **Sectorial:** this is a technological change in one sector, for example, the green transformation, commercial revolution.
- ii. **Universal:** this is organized and interconnected radical transformation (changes) in more sectors, the universal technological changes are perceived as a multifaceted of several parallel sectorial technological revolutions. For example, first and second industrial revolution in 1900s, Rebirth technological revolution, green revolution in 1945 – 1975, market revolution, scientific revolution, etc.

Suggested Technological Revolution Strategies as a Panacea to Reducing the Effects of Economic Recession in Nigeria

Having x-rayed the different effects/impacts of recession on any economy, it beholds on us now to look at some of the strategies of technological revolution which will engender development and ignite a quick fire that will melt the economic recession and change the narratives during and after COVID-19 era. The economic revolution strategies include:

- i. **Technical Oriented Policy (Akpojedje and Ighodaro, 2019):** there should be an urgent need by the Nigerian government to always promulgate social, economic policies that are technically oriented. Besides the government, other stakeholders should make policies that technologically drive and abstain from any form of policy that will retrogress technological development.
- ii. **Commercialization of Research and Development (Akpojedje and Ighodaro, 2019):** there should not be a disconnection between the results obtained through research and development (R & D) in institutions and industries. In addition, any relevant output from R & D should be practically put into use by industries in order to encourage novelty and discovering in the country technological development and advancement
- iii. **Agro-technology:** is the fusion of science and technology with agriculture in order to replace the outdated (old) practices of farming in the areas of crop production. "The importance of food to physical, economic and cultural development, together with the importance of efficient, sustainable production makes modern techniques crucial—in fact, there is strong evidence that only such approaches have any significant chance of meeting the world's basic food needs in the next few decades" (William, 2017).
- iv. **Information Communication Technology (ICT):** Since one of the problems facing an economy in recession is unemployment and a fall in gross domestic product (GDP), the role of ICT in solving these problems cannot be overemphasized. "The ICT sector is, and is

expected to remain, one of the largest employers. In the US alone, computer and information technology jobs are expected to grow by 22% up to 2020, creating 758,800 new jobs.

- v. **Nigeria Government should increase Her Expenditure on Technical Skills Acquisition:** in the past decades the quest and interest on technical skills acquisition has been drastically reduced because of the lackadaisical attitude by the country handlers toward development for local technical skills and its acquisition. We therefore, put it forward to the country handlers and managers to have interest and increase expenditure on technical skills and its acquisition.

Conclusion

Having x-rayed the effects/impacts of technological revolution vis-a-vis economic recession in and post COVID-19 era in Nigeria; you will all agree with me that the recent economic downturn in the world during COVID-19 is having negative effects on engagement levels and this is something every businesses both public and private should be concerned with. Pulling an economy out of recession needs technological revolution that will transform and enhance productivity and quality of goods and services rendered; the dependency of Nigeria economy on foreign economies must change and this change in narratives will be through appropriate transformation of indigenous technology that will have impact on jobs creation and also, will translate to economic boom in the country. In dealing with the indigenous technological revolution that will stimulate economic development and raise standard of living of the citizenry, all hands must be on deck.

Recommendations

1. Government support for commercial technologies should be provided
2. Strengthening commercialization of research and development of technological institutions
3. Strengthening capacity building of science and technology
4. Adequate funding of Research and Development" (R & D) of technological institutions
5. Strengthening educational system
6. Eliminating the existing gaps in workforce training and retraining
7. Strengthening synergy and sustenance of "Public - Private Partnership" (PPP)
8. Incorporating and strengthening a synergy between industries and academic institutions

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