

CHINESE POVERTY REDUCTION MODEL: A VIRILE TOOL FOR ACHIEVING POVERTY REDUCTION IN NIGERIA BY 2030

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ABSTRACT

Various strategies have been used by Nigerian government in a bid to stem the tide of rising poverty in the country but poverty appears not to have been abated judging from the available statistics. However, China has been able to reduce its poverty from 57% to less than 1% between 1999 and 2020. Therefore, this study appraised empirically the efficacy of Chinese poverty reduction model reducing poverty in Nigeria. Both the CBN Statistical Bulletin and World Bank Development Indicators were used as sources for the data. The data were analyzed using regression utilizing the Ordinary Least Square method. The results showed that agricultural productivity, a component of China's strategy to combat poverty, had a significant impact on reducing poverty in Nigeria. Additionally, it was discovered that government spending on social services, another Chinese strategy, had a beneficial effect on the eradication of poverty. It was discovered that a 1% increase in the amount spent on social and community services in Nigeria resulted in a 21% decline in the country's poverty rate. However, it was found that agricultural spending was inversely correlated with capital income, which went against the theoretical prediction. Therefore, it was determined that the Chinese model for decreasing poverty, which incorporates better agricultural techniques, higher social security, and community services, will be effective in significantly lowering poverty in Nigeria by 2030.

Keywords: *Poverty Reduction, Chinese Model, Agricultural Productivity, Social and Community Expenditure*

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1. INTRODUCTION

Generally, poverty is a state of the inability of an individual to maintain certain level of welfare which among others, include food, clothing, transportation, public services, health, wealth, or even recreation (Bank, 2021). Poverty elimination by 2030 is top on the Sustainable Development Goals (SDGs) that simply connotes a special kind of development that sufficiently meet the present generation needs without reducing the ability of the generation in the future to equally satisfy their own needs. Broadly, the SDGs are rooted in bifurcated concepts, which firstly includes the 'needs' and thus emphasizes the imperative of prioritizing the provisions to meet the essential needs of the poor globally, and secondly, it incorporates the limited ability to meet both present and future needs caused by the state of technology and social organization within the environment. The number one cardinal goal of SDGs being championed by the World Bank is titled "No Poverty" by 2030; this connotes that the global financial institution is canvassing that by 2030, there should be no reign of poverty anywhere in the world as every living soul on earth is expected by then to be living above \$1.90 a day.

Globally in the early 1990s, World Bank (2021) asserts that extreme poverty was so prevalent at over 30%. It is interesting to note that 60% of the world's extremely poor people lived in China and India, two of today's industrialized nations. However, the economic performances in the mentioned countries have been driving poverty reduction globally since 1993, such that between 1993 and 2017, 1.2 billion individuals were lifted out of extreme poverty; 969 million of them, constituting about 80% could be traced to China and India. The Bank further reports that According to a recent household survey by World Bank, China has successfully decreased its rate of extreme poverty, which was 57% in 1993, to under 1%. The foregoing position is corroborated by Schmidt (2021) who notes that from 97% in 1978, China brought down its poverty rate to 1.7% towards the end of 2018 and that the aim of China, in alignment with Sustainable Development Goal, is to bring rate of poverty down to 0% by 2020.

Moreover, it is interesting to note that Nigeria is endowed with immense fertile land which is about has 70.8 million hectares according to (Samson, 2021); this is why agriculture was the mainstay of the Nigerian economy in the 60s and agriculture was contributing significantly to Nigerian Gross Domestic Product (GDP) and provided largest job opportunities for the Nigerian teeming population; Nigeria was a leading exporter of many agricultural products like cocoa, rubber, groundnut, palm oil among others. However, right from the discovery of crude oil in Nigeria, agriculture has been abandoned; hence, Nigeria of today cannot boast of any tangible exportable products but survive by hanging on tenaciously to imported products, to the extent that nonessential items like biscuits, palm oil, sugar, etc that used to be Nigeria's notable exportable goods are now being imported to Nigeria. Nigeria of today cannot feed her population and has disgracefully becomes the world's poverty capital since 2018 (World bank, 2019). It there requires no metaphysical power to discover how Nigeria has abandoned her endowed agricultural treasures in pursuit of beleaguered crude oil. China that is not as blessed as Nigeria in terms of climate and fertile lands has devised potent agricultural weapon to lift her teeming populace from the dungeon of poverty and become one of the countries with lowest poverty rates in the world. It is therefore, imperative to investigate the potency of agriculture to return Nigeria to the path of boom and flourish of the good old days; this is the reason behind the conception of this study.

Many scholars therefore have conducted empirical investigations into between poverty reduction prospects in Nigeria; Olatunji et al., (2017), Urama & Iheonu (2019), Apata (2021), Oriavwote & Ukawe (2018), Aderounmu et al., (2021) and host of other scholars are few among the scholars that have delved into investigating the incidence of poverty in Nigeria. However, despite the impressive research of these scholars, none of them have related poverty reduction strategies in Nigeria to those of China; also, none of the existing scholars have considered agricultural productivity as one of the poverty reduction tools in Nigeria;

Moreover, existing studies have always related agriculture with aggregate economy by justifying agriculture as a key tool in promoting economic growth; few of the scholars in this regards are Weolebo (2018), Kenny (2019), Richard et al., (2019), Ogebe et al., (2020), Buari, Alexander, Saheed and Alfa (2020). In addition, other scholars in the literature focus attention in excess on the effect of agriculture on the productivity of the agricultural sub-sector; Uremadu et al., (2018), Nosike & Ihugba (2019), Eneji et al., (2019) are few of the scholars in this category.

Therefore, if China can reduce poverty from 53% in 1993 to less than 1% in 2020, they must be doing something right and different from what is obtainable in Nigeria. In the light of the aforementioned gaps, this study explored only agriculture and social security protection scheme, among other strategies adopted by China to reduce her poverty; hence, this study aims to empirically justify how agriculture could be used to return Nigeria to the path of boom and poverty reduction just as it has been done in China successfully.

Also, given that some of the strategies employed by China to substantially reduce poverty include improved agricultural practices, industrialization, social security schemes among others, this study is poised to answer the following questions:

- a. What is the effect of agricultural spending reduction of poverty in Nigeria?
- b. How does agricultural productivity stimulate reduction of poverty in Nigeria?
- c. How does social and community spending enhance reduction of poverty in Nigeria?

In a bid to answer the above research questions, this study, in general, is targeted at justifying the need for Nigeria to adopt agriculture as a strategy for poverty reduction. In doing this, the study specifically aims to:

- a. evaluate the effect of agricultural spending in Nigeria on reduction of poverty
- b. appraise the effect of agricultural productivity in Nigeria on reduction of poverty
- c. assess the effect of social and community spending in Nigeria on reduction of poverty

Furthermore, the study tests the significance of the following hypotheses:

- H₁** : Agricultural spending in Nigeria has no significant effect on reduction of poverty
H₂ : Agricultural productivity in Nigeria has no significant effect on reduction of poverty
H₃ : Social and community spending in Nigeria has no significant effect on reduction of poverty.

2. LITERATURE REVIEW

Nigeria's Poverty Overview

One of the greatest economic growth rates in the world were once recorded in Nigeria during the British Empire. It also had a highly developed economy and a wealth of natural resources) (Sunkanmi & Abayomi, 2014). Nigeria's extreme poverty rate is significant and rising, however, according to World Bank (2018) Despite having a middle-income status, over four out of every ten Nigerians lived below the national poverty level in 2016.3 When the international poverty threshold of US\$ 1.90 per day is used, Nigeria has the highest proportion of individuals who live in extreme poverty, surpassing India in 2018. In 2018, Nigeria's poverty rate, calculated at US\$1.90 per day, was close to 50%, far greater than that of its neighbors. Nigeria has seen an increase in poverty over the past few years. According to the national poverty line, the percentage of the population living in poverty rose from 35.0 to 38.8% between 2011 and 2016. Between 2011 and 2016, there were 57 million fewer individuals living in poverty than there were in 2011. This increase was caused by both an increase in poverty occurrences and a quick rate of population expansion (World Bank, 2019).

Poverty Reduction and Dimensions

According to the UNDP (1997), there are three ways to look at poverty. First, from the standpoint of incomes, a person is considered poor if their income is below the designated poverty line, which is currently set at \$1.90 per day by the (World Bank, 2020). From a third perspective, poverty denotes a lack of capacity, which then means a lack of availability of capacity to function and attain minimum and acceptable extent of functionality. Secondly, poverty can be said to exist when people are deprived of basic materials required to meet their basic needs, such as foods, basic health, employment, education, etc. According to Mbilinyi & Nyonyi (2000), poverty connotes a lack of means to satisfy fundamental material and human requirements as well as a sense of helplessness. One thing is obvious when examining the meanings attached to poverty by the aforementioned authors: poverty is a state of severe deprivation of fundamental needs.

In addition, Iheomu and Urama (2019) contend that as of 2018, roughly 86.9 million Nigerians were classified as extremely poor, making Nigeria known for having the greatest rate of extreme poverty in the world. When contrasted to nations like India, where 72 million people live in extreme poverty, and the Democratic Republic of the Congo, where 61 million people live in abject poverty, this figure is the greatest. Additionally, the Global Consumption and Income Project ([GCIP], 2019) has shown that Nigeria's poverty rate has been consistently high over the years. For example, from 1960, when Nigeria gained independence, the poverty head count ratio increased from 61% of the total population to an average of 60% between 1970 and 1971, while by 1980, it had decreased to about 47%, or nearly half of the population. To make matters worse, the World Bank (2021) observes that, based on the economic impact of COVID-19, around 100 million people, including Nigerians, may have fallen even further into severe poverty, marking the first extremely significant increase in recent decades. To this end, Olayinka (2019) asserts that between November 2018 and February 2019, more than 93 million Nigerians remained in the poverty net, with at least 3 million living in the range of extreme poverty. This is despite the successive Nigerian government having previously launched a number of programs aimed at reducing poverty.

Also, Iheomu and Urama (2019) claim that lack of education, corruption, and an unstable political environment are some of the factors causing poverty in Nigeria while analyzing the causes of poverty in Nigeria. They also contend that increasing the agricultural value chain and diversifying the Nigerian economy can help reduce poverty in that country. Agriculture is linked to both of these goals. Therefore, the argument made by Schmidt (2021) that China needed to scale up its agricultural techniques and increase its social security programs in order to lower its poverty rate is supported by the submissions of Iheomu and Urama (2019). Therefore, if the Nigerian government is serious about improving the agriculture value chain, they must pay close attention.

Given the assertion made by Abu et al. (2016) that there are lower returns or profits to the agricultural sector because the majority of agricultural products are sold raw due to a lack of facilities for preservation and storage, agricultural practices in Nigeria are currently in a state of disarray and the value chains in Nigerian agriculture have not been thoroughly explored. The aforementioned is consistent with submission by Ewubare & Mark (2018) who demonstrate that around 50% of agricultural products in Nigeria are produced in rural regions and have lower commercial values. This study thus measures agricultural expenditure in relation to poverty reduction in Nigeria since improved agriculture is part of the poverty reduction model used in reducing poverty drastically in China. Also, for the purpose of this study, income measurement approach to poverty is adopted in which those who live below international poverty line of \$1.90 per day are regarded as poor.

Social and Community Schemes and Poverty Reduction

Nigeria had one of the highest average economic growth rates in the world under the British Empire, along with a highly developed economy and an abundance of natural resources. However, it still has a high level of poverty, with 63% of people subsisting on less than \$1 a day, which suggests a decline in equity. Numerous programs targeted at reducing poverty have been established with a significant amount of public funding at various points in time to address the issue of poverty. The National Accelerated Food Production Program and the Nigerian Agricultural and Co-operative Bank, both of which were founded in 1972, stand out among the programs the most;

There are numerous policies that can be created to combat poverty. One of these programs' most crucial tools is social spending. Many people think that increasing funding for social spending will lower the poverty rate. In his study, Kenworthy (1999) used data for the years 1960–1991 from 15 developed nations and came to the conclusion that social welfare spending lowers poverty. For European nations, Behrendt (2000) hypothesized a negative relationship between social spending and poverty. His research shows that nations that devote a large portion of their economic resources to social spending have lower poverty rates.

To this end, Spicker (2002) emphasizes that the welfare state can lessen the causes of poverty by making specific political decisions while discussing the issue of poverty. He contends that in order to ensure that its residents have a minimal level of life, the government must carry out a number of social functions through the use of welfare spending, taxation, and the legalization of market mechanisms (Spicker, 2002). The expenses associated with these poverty-reduction strategies should be weighed against the advantages of doing so. Nevertheless, Caminada and Goudswaard (2009) used data from 15 EU members and discovered a substantial inverse association between social spending and poverty rates. The association between poverty and social transfer spending

has also been studied by Caminada et al. using a variety of macroeconomic and demographic factors (2011). According to their findings, the poverty rate is influenced by social transfer spending, unemployment, the old population, and GDP per capita. They contend that social spending, however, is the most crucial and efficient strategy for battling poverty.

The World Bank (2021) states that increasing per capita income or enhancing welfare and social security programs are the two ways to help people escape poverty. Hence, between 2016 and 2020, government spending in Nigeria on social and community services were N255.78 billion, N334.89 billion, N372.55 billion, N479.03 billion, and N475.65 billion, respectively (CBN, 2020). Therefore, there is need for research into the correlation of annual spending on social services, such as health care, education and reduction of poverty in Nigeria. Given that one of China's goals for lowering its poverty rate is to focus social and security, this study examines annual spending on vis-à-vis poverty reduction in Nigeria.

Chinese Poverty-Reduction Strategies

According to Brett (2020), direct influence and economic growth contributed to a decrease in poverty in China. In order to combat poverty, China sent 775,000 authorities to underdeveloped areas in 2016. These officials were given one- to three-year contracts by the nation. This immediate result illustrates how strong economic growth can help a government end poverty in rural areas.

In addition, according to the World Bank's contribution (2020), China invested in agriculture to reduce poverty, and effective agricultural programs were built from the ground up. Similar to China's strategy in the 1970s and 1980s, it plans to intensify efforts to open up the economy for trade, diversify the market, enhance agricultural practices, and push educational reform. The aforementioned is consistent with Kimura's (2020) argument that China has prioritized agriculture, farmers, and rural areas as central to its policy agenda in order to achieve the goal of a moderately prosperous society. As a result, comprehensive rural development policies have supported remarkable increases in agricultural productivity and increased off-farm income, which now makes up more than 70% of rural household income.

According to Kimura (2020), China is a prime example of how to reduce poverty in developing nations. Through policies centered on industrial development, relocation, environmental compensation, education, and social security, China intends to put further techniques for reducing poverty into action. By actively intervening in remote rural areas that are inherently poorer and are difficult to access, the Chinese government has been able to reduce poverty (Schmidt, 2021). To promote economic growth, the Chinese government pushed for the development of new industries in these underdeveloped areas, such as e-commerce and tourism. Additionally, Chinese efforts to reduce poverty have benefited by the relocation of poor households who previously resided in earthquake- or landslide-prone areas. The nation also places a high priority on education and vocational training. Public health care would be available to the underprivileged, especially in remote mountain areas (*World Bank, 2021*).

Conceptual Framework

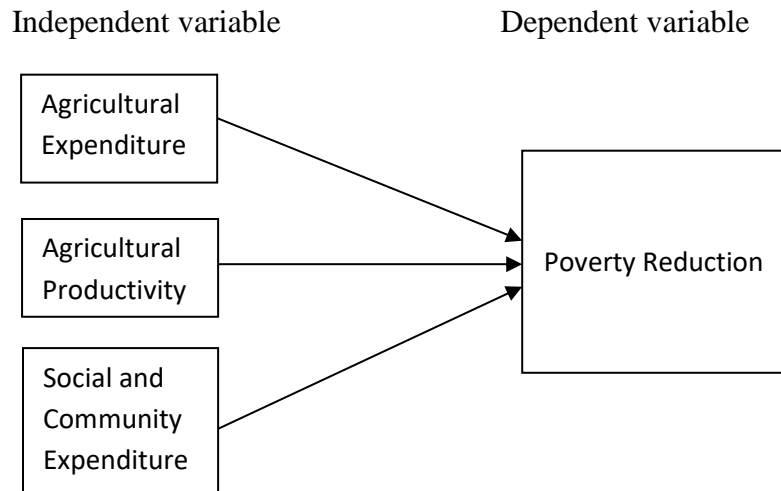


Figure 1: Chinese Poverty Reduction Model to show the link between agricultural expenditure, productivity, social and community expenditure and poverty reduction.

Theoretical Framework

The Keynesian Theory is one of the widely used theories that relate public spending on various sub-sectors to the growth of an economy. This theory contends that any increase in government spending has a favorable and considerable effect on economic growth, which indirectly affects the level of poverty (Sunkanmi & Abayomi, 2014). Keynes argued that government spending is an exogenous variable that may be used as a tool for policymakers to encourage economic expansion. Keynesians contend that government expenditure can positively impact economic expansion. Due to the multiplier effects on aggregate demand, a rise in government consumption is likely to result in an increase in employment, profitability, and investment. As a result, government spending boosts aggregate demand, resulting in higher output based on expenditure multipliers. Hence, since the focus of this study is on expenditure on agriculture and poverty reduction which is proxied by per capita income derived from GDP, then the Keynesian theory is appropriate in confirming the relationship between various government expenditures on agriculture and poverty reduction in Nigeria.

Empirical Review

Weolebo (2018) investigated how agricultural spending affected sub-Saharan Africa's economic expansion. The study, which covered the years 1990 to 2015, analyzed annual panel data from the World Bank, UNDP, and IMF publications and found that spending on agriculture, health care, and education has a positive and significant impact on the region's GDP per capita. Because agriculture serves as the main economic foundation for many African nations, public spending on the sector had a significant positive impact on the region's economic progress.

Sarsoy and Koç (2010) focused on the effects of social transfer spending on poverty in rural and urban areas in order to examine this problem for the case of Turkey. They came to the conclusion that, in contrast to spending in urban regions, social transfer spending in rural areas has a major impact on poverty in Turkey. Brady (2003) also suggests that social and fiscal strategies ought to be implemented to eradicate poverty.

In addition, the effects of government spending on agricultural productivity in Nigeria from 1981 to 2018 were explored by Eneji et al., (2019). The analysis of the time

series data was done using the Ordinary Least Square (OLS) method in the study. The speed of adjusting the dynamic short-run to long-run equation was determined using the Error Correction Mechanism (ECM). The study discovered a strong and positive correlation between government spending (on infrastructure, health, and agriculture) and agricultural productivity in Nigeria. The impact of food imports, on the other hand, is detrimental to Nigerian agriculture, with a coefficient of -17.50% and probability value of 0.3890. Still, (Ogebe et al., 2020) conducted an empirical analysis with an emphasis on reducing poverty to determine the relationship between agricultural production and the expansion of the Nigerian economy. Results using ARDL and the Vector Error Correction Model (VECM) confirmed evidence of both long- and short-term links between agricultural output and Nigerian economic growth. This suggests that agricultural production had a big impact on Nigeria's positive economic growth trend.

Olatunji et al., (2017) investigated how Nigeria's capital budget expenditure implementation affected economic growth. In particular, the study evaluated how capital expenditure implementation will affect administration, economic services, and socio-community services in Nigeria. They come to the conclusion that capital expenditure implementation is crucial for sustaining economic growth in Nigeria. Iheomu and Urama (2019) evaluated the challenges of poverty in Nigeria and discovered that, in order for poverty alleviation strategies to be effective in Nigeria, the fight against corruption must be waged to a standstill, while significant investments must be made in the educational sector. It is also important to review curricula to make sure that relevant skills are taught in the Nigerian educational system.

Apata (2021), a researcher who examined between 1981 and 2018 the impact of public spending on Nigerian agriculture, found that a 1% increase in investment for health care, farm feeder roads, and education will result in a 0.043 increase in agricultural production per person. Additionally, Oriavwote & Ukawe (2018) gather and analyze data from 1980 to 2016 to look into the relevance of government spending on reduction of poverty. According to the study's findings, government spending on education has a large and favorable impact on per capita income, which suggests that investing in agriculture can lower Nigeria's poverty rate

Still, from 1992 to 2016, Aderounmu et al., (2021) assessed the relationship between the causes of poverty and Nigeria's development. The study finds that unemployment is the primary source of poverty, and that spending by the government against austerity measures as well as short-term economic growth help to reduce poverty. In an effort to combat poverty, Ogbonna (2017) looked into the delivery of social welfare services to the most vulnerable Nigerians. It was discovered that these services are not well developed in Nigeria, are poorly funded, and are out of the reach of the majority of those in need. Instead, they are concentrated in the hands of a small number of Nigerians. Additionally, Ifeanyi (2013) looked into the effect of government spending on eradicating poverty in Nigeria from 1980 to 2011. The results of the study revealed that Nigeria's poverty rate decreased as government spending increased on transportation, health, and education.

In their assessment of government spending on primary school enrollment and poverty reduction in Nigeria, Nenbee, Aleogbo, Vite, and Otovwe (2021) discover that after a one-year lag period, government capital expenditure was positively related to per capita income while government recurrent expenditure had a significant negative impact on per capita income. Furthermore, Omari & Muturi (2016) examine how government sectoral expenditure affects poverty levels in Kenya and discover that agriculture and

health spending have a favorable and significant impact on poverty levels. Samuel (2020) assessed whether government spending lessens poverty in Nigeria and finds that transfer recurrent expenditure, social and community recurrent expenditure, and recurrent expenditure on economic services all had a positive influence on poverty. In a similar vein, Omodero (2019) investigated government sectoral spending and poverty alleviation in Nigeria and comes to the conclusion that government spending on agriculture, building, education, and health has little to no effect on reducing poverty in Nigeria.

3. RESEARCH METHODS

Research Design

In order to investigate the relationship between agricultural expenditure, social and community expenditure, this study adopted quantitative research design which involves collection and analysis of quantitative data. The research strategy and approach adopted was deductive as the study is poised to confirm the relationship between agriculture and reduction of poverty, sequel to Keynesian Theory.

Sources of Data

In this study, observations for each of the research variables were obtained from the Statistical Bulletin of the Central Bank of Nigerian and World Bank data base for 12 years from 1999 through 2020. This scope was appropriate because it captures the entire period of the reigns of democratic government in Nigeria.

Model Specification

The model specified by Olatunji et al., (2017) was adapted in this study. Hence, the model for this study is stated thus:

$$PCI = f(\text{AGREXP}, \text{AGRPRD} \ \& \ \text{SOCEXP}) \dots \dots \dots \text{Eq}(3.1)$$

Expressing Eq(3.1) in econometric form yields Eq(3.2) thus:

$$PCI = \beta_0 + \beta_1 \ln \text{AGREXP} + \beta_2 \ln \text{AGRPRD} + \beta_3 \ln \text{SOCEXP} + u_t \dots \dots \dots \text{Eq}(3.2)$$

Where:

PCI : Nigeria's Per Capita Income measured as Gross National Income Divided by the total population

AGREXP : Total spending on agriculture by Nigerian government

AGRPRD : Productivity of the agricultural sector measured by the GDP of the sector

SOCEXP : Total government spending on social and community services

β_0 : Regression intercept

$\beta_1 - \beta_3$: Parameters to be estimated

A priori Expectation

Given that improved agricultural practices and robust social security programmes were parts of the poverty reduction strategies of China, the relationship expected among the variables in this study can be expressed thus:

$\beta_1 > 0$ i.e positive; $\beta_2 > 0$ i.e positive; $\beta_3 > 0$ i.e positive

Estimation Technique

The Philip-perron approach to stationary test revealed all research variables to be integrated of order one $I(0)$. Hence, the Least Square method of estimating regression model was employed in this study. This choice was spurred by the Best Linear Unbiased Estimator characteristic of OLS regression which makes it to produce minimum variance among the other estimators.

4. RESULTS INTERPRETATIONS AND DISCUSSION OF FINDINGS

Result of data analysis, its interpretations and discussions are presented in this section.

Unit Root Test

The study confirmed the number of unit roots in each of the research variables by using Philips-Perron approach; the test results are on Table 1.

Table 1. Philips Perron Unit root test at logarithmic levels

| Variables | Critical value @ 5% | Philips Perron Test Statistics | Order of Integration | Remarks |
|-----------|---------------------|--------------------------------|----------------------|------------|
| LAGEXP | -3.012363 | -4.394806* | - | Stationary |
| LAGRPD | -3.012363 | -3.459014* | - | Stationary |
| LSOCEXP | -3.012363 | -3.964280* | - | Stationary |

Source: Author's Computation, 2022.

H0: Each variable has a unit root; **H1:** H0 is not true

Notes:*Denotes significance at the 5% level and the rejection of the null hypothesis of non-stationarity.

The above pre-test reveals that the variables of this study have no unit root in their series and hence stationary at levels. This is a confirmation that Ordinary Least Square regression is appropriate for estimating model 3.2. The results of the model estimation are contained on Table 2.

Table 2. Summary of Regression Result

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|------------------------|-------------|-----------------------|-------------|----------|
| C | -1.599505 | 2.523278 | -0.633900 | 0.5341 |
| LAGREXP | -0.044803 | 0.167529 | -0.267436 | 0.7922 |
| LAGRPRD | 0.851689 | 0.364859 | 2.334294 | 0.0314** |
| LSOCEXP | 0.209141 | 0.235392 | 0.888478 | 0.3860 |
| R-squared | 0.850206 | Mean dependent var | | 7.370288 |
| Adjusted R-squared | 0.825240 | S.D. dependent var | | 0.578155 |
| S.E. of regression | 0.241694 | Akaike info criterion | | 0.160673 |
| Sum squared resid | 1.051484 | Schwarz criterion | | 0.359045 |
| Log likelihood | 2.232593 | Hannan-Quinn criter. | | 0.207404 |
| F-statistic | 34.05504 | Durbin-Watson stat | | 0.311427 |
| Prob(F-statistic) | 0.000000 | Wald F-statistic | | 46.45186 |
| Prob(Wald F-statistic) | 0.000000 | | | |

Source: Author's Computation, 2022

LAGREXP: Total Agricultural Expenditure; LAGRPRD: Total Agricultural Productivity; LSOCEXP; Total Social and Community Expenditure: Notes: ** 5% level of significance * 10% level of significance

The regression results of the impact of agricultural and social expenditures on reduction of poverty in Nigeria are as displayed on Table 1. From Table 1, the equation along the line of best fit which defines the relationship among the variables of interest in the study is stated thus:

$$PCI = -1.5995 - 0.0448AGREXP + 0.8517AGRPRD + 0.2091SOCEXP + et$$

Equation above clearly shows that within the scope of this study, amount expended by the Nigerian government on agriculture was negatively and insignificantly associated with per capita income. It can be observed that 1% increase in agricultural spending by the Nigerian government was associated with about 4% decrease in the per capita income. This is quite contrary to a priori expectation and amount to refutation of Keynesian' postulations that increase in public expenditure would spur economic growth. About a total sum of 1 trillion 774 billion was spent on agriculture in Nigerian between 2019 and 2020 according to CBN (2020). Thus, considering the ingrained corruption reigning in Nigeria, the negative effect of agricultural spending on reduction of poverty may be an indication the huge amount purported to have been spent on agriculture over the years were actually not spent on agriculture but diverted to other non-agricultural purposes. This result thus contradicts that of Olaoye et al. (2017) as well as Omari & Muturi (2016) examine how government sectoral expenditure affects poverty that increase in agricultural spending improves economic growth but agrees with the submission of Iheomu and Urama (2019) that corruption is one of the clogs in the wheel of fighting poverty in Nigeria. This result also agrees with the finding of Omdero (2019) that agricultural spending by government failed to significantly reduce poverty in Nigeria.

With respect to the relationship of agricultural productivity with per capita income, the result revealed that under agricultural expenditure is reversed, such that the productivity of agricultural sector maintained positive and significant relationship with per capita income in a manner that 1% increase in agricultural productivity was associated with about 85% significant increase in the per capita income. This result connotes that improved agricultural productivity, as done in the case of China is an apt strategy in boosting per capita income, and by extension reducing poverty rate in Nigeria. Moreover, the potency of the improved agricultural productivity is justified by the 85% statistically significant positive consequential effect on per capita income. This affirms the submission of Kimura (2020) and Brett (2020) that China capitalized on improved agriculture to reduce poverty rate substantially and built agricultural projects successfully starting from the grassroots. This result also confirms the finding of Omari & Muturi (2016) examine how government sectoral expenditure affects poverty, (Olatunji et al., 2017) as well as Nenbee, Aleogbo, Vite and Otovwe (2021) that agriculture is positively relate to economic growth and by extension potent in reducing poverty.

The results of this study revealed a positive and weak relationship between what was spent on social services and per capita income; with a 1% increase in that spending producing a 20% rise in the average value of per capita income and vice versa. Consequently, Nigerian government, just like China can equally reduce poverty rate in Nigeria by spending more on social security protection and services which has direct bearing of reducing the plights of the people within the poverty line. This finding corroborates those of Oriavwote & Ukawe (2018) and services like Education, health, etc help to address poverty in Nigeria. This result contends with that of Ogbonna (2017) there is various social and poverty reduction programmes of the government in Nigeria has not culminated in poverty reduction.

Furthermore, from Table 1, the R^2 is 85% and this implies that jointly all the explanatory variables were able to predict per capital income and by extension, the poverty direction in Nigeria to the magnitude of 85% while the remaining 25% was accounted for by extraneous factors that were excluded in the estimated model. The F-stat which measures the robustness of the estimated model was 34.05 with probability value of $0.0000 < 0.05$; this signifies that the performance of the model overall is impressive and that the proportion of 85% accounted for by the independent variables was not by chance. The Durbin-Watson shows the presence of positive serial correlation, the auto-correlation was corrected in the results depicted in Table 1 above using Newey-West HAC covariance estimator as indicated by Wald F-stat of 46.45.

Table 3. Diagnostic Test: Heteroskedasticity Test: Breusch-Pagan-Godfrey

| | | | |
|---------------------|----------|---------------------|--------|
| F-statistic | 2.664274 | Prob. F(3,18) | 0.0790 |
| Obs*R-squared | 6.765025 | Prob. Chi-Square(3) | 0.0798 |
| Scaled explained SS | 1.420495 | Prob. Chi-Square(3) | 0.7007 |

Source: Author's Computation (2022)

Table 3 displays the result of the Heteroskedasticity Test conducted on the residuals. The Null hypothesis for this test is that the residuals are homoskedastic. Looking at the p-value of the F-stat $0.0790 > 0.05$, there was not adequate evidence to reject the Null hypothesis. It was therefore concluded that the residuals are homoskedastic and hence, the regression result obtained in this study did not suffer from Heteroskedasticity.

5. CONCLUSION AND RECOMMENDATION

Poverty is synonymous to deprivation of basic human needs and a state of inability to meet basic human needs which result into hunger, unhealthiness, illiteracy among other excruciating consequences. In Nigeria, scholars have been examining the effect of government expenditure in relation to poverty reduction in Nigeria but none has drawn Nigeria's attention to the Chinese experience and strategies in fighting poverty. Moreover, existing studies have always investigated agriculture viz-a-viz aggregate economy and as well as the agricultural output. However, this study departs from the trends in the literature and focuses on agriculture as catalyst for stemming the tide of escalating poverty in Nigeria. More particularly, it emphasizes the application of the Chinese poverty reduction strategies in Nigeria and justifies the need for Nigeria to go the way of China in fighting poverty. Result of the estimated model showed clearly that Agricultural productivity which is one of the potent weapons used by China in fighting poverty was significant in reducing poverty. Incidentally, this same sector is one of those that usually receive the least budgetary allocations over the period covered by this study. It was unraveled in this study that social and community spending, which is another strategy applied in fighting poverty in China was positive but insignificant in association with per capita income; this suggest increase in the spending of this nature over time may become significant in reducing poverty in Nigeria. Based on the foregoing result, this study concludes that Chinese poverty reduction strategies, if adopted or replicated in Nigeria with all seriousness, would be significant in reducing poverty substantially by 2030.

Consequently, this study recommends that the approach of the Nigerian government in respect of fighting poverty should be reviewed by adopting Chinese poverty reduction model and allocating substantial portion of the yearly expenditure to promote agriculture; this is expected to the productivity of the agriculture in Nigeria, and subsequently reduce poverty substantially by 2030. In addition, government should build a virile expenditure monitoring and control mechanism into agricultural sector so as to ensure effective, efficient and transparent implementation of the agricultural budget. Furthermore, government in Nigeria should equally accord more financial to provision of social and community services which encompasses Health services, education, social security, etc as doing this consistently has the potency to reduce poverty rate in Nigeria significantly by 2030. Furthermore, other Chinese strategies for poverty reduction not explored in this study are recommended for future researchers to explore.

Teknik penulisan kedua subbagian sama seperti yang dijelaskan pada bagian atau subbagian sebelumnya. Kesimpulan merupakan intisari yang menjadi hasil utama dari penelitian atau hasil pemikiran yang disajikan secara tegas, singkat, dan jelas supaya tidak menimbulkan multitafsir. Kesimpulan disajikan dalam bentuk paragraf (bukan poin-poin).

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