

Does Agriculture Really Matter for Economic Growth in Congo Brazzaville?

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Abstract

African countries are expected to be having a comparative advantage when it comes to agricultural products. If this is true, specializing in agriculture can increase output levels. However, the effect of agriculture on growth has yielded various research interests and the results differ from country to country. The present study investigates the impact of agriculture on economic growth in Congo Brazzaville using the Autoregressive Distributed Lag (ARDL) estimation technique, employing secondary data from 2005 to 2018. Different variables are used such as agricultural value added, the industrial value added, gross fixed capital formation and Corruption Perceptions Index. The results suggest that in the short run; agricultural is significant at the 5% level and has a positive impact on economic growth. Similarly, its lag is also significant at the 1% level and negatively impacts growth. In the long run, on the other hand, agricultural production (agricultural value added) has a negative and insignificant effect on economic growth. Thus, the agricultural sector plays an important role in the early stages of economic development, and when the economy has developed, agriculture plays a minimal role. It is evident from the results of this paper that agriculture is an engine for growth in the short run and should eventually be supported by other macroeconomic policies to promote economic growth in the long run. Congolese farmers must increase productivity in the agriculture sector which plays a primordial role in production and employment in order to enable the development of the industrial sector and therefore boost economic growth.

Keywords

Agricultural Production, Economic Growth, ARDL, Congo Brazzaville

1. Introduction

Economics is all about making smart choices to cope with scarcity. The most fun-

damental measurement used to evaluate the success in allocating the scarce resources is economic growth which is an increase in the amount of goods and services that an economy produces economic growth is the most powerful instrument for reducing poverty and improving the quality of life in developing countries. It is currently one of the main goals that all countries both developed and developing aim to achieve (Bakari & Mabrouki, 2018).

Economic growth is an important phenomenon whose reality differs depending on the context in which one may be because there are countries whose economic growth depends on the agricultural sector: this is the case of China. In Iran, on the other hand, it depends on the service sector, mining and oil industry (Ghimire et al., 2021). This phenomenon results in rising wages and higher standards of living for citizens (measured as increases in real gross domestic product [GDP] per capita; it allows a society to increase its consumption of goods and services.

In 2018, the GDP growth rate in Central Africa (i.e., Cameroon, Central African Republic, Congo, Democratic Republic of Congo, Gabon, Equatorial Guinea, and Chad) accelerated slightly to 2.2 percent from 1.1 percent in 2017, while remaining below the African average of 3.5 percent (BAD, 2019).

Sub-Saharan African countries' growth is essentially based on natural resources (fossil fuels, metallic and non-metallic minerals, forestry and agricultural resources). Most of these resources do not regenerate quickly enough to serve some human purpose in a sustainable way (UNCTAD, 2012). Congo's economy is dominated by the oil sector, which accounts for 50% of GDP, 60% of budget revenues and 90% of exports (FAO, 2017). This country experienced strong economic growth (4.5% per year) between 2002 and 2015, with the poverty rate in 2015 of 36% (World Bank, 2017). Following the fall in oil prices, Congo, lowered its annual production goal to 110 million barrels from 140 million barrels. These encouraging performances fell. Economic growth in the Republic of Congo declined to -2.8% in 2016 and -3.1% in 2017 (World Bank, 2018b).

Taking into account the weaknesses related to the volatility of oil prices on the world market, the Congolese economy resorts to the agricultural sector as a sector that can boost economic growth.

However, Congolese agriculture is not very competitive due to many factors such as human resources. This is because the sector is dominated by smallholders who practice traditional cultivation and the means of production used are still rudimentary and archaic (hoe, machete, etc.), which slows down agricultural activities and therefore economic growth in the Congo (FAD, 2008; Niassy et al., 2022).

Despite the reforms introduced in the country to boost the agricultural growth and its effect on the economy, agricultural output has failed to bring the desired growth needed to achieve the Millennium Development Goals which was to halve the poverty rate by 2015.

Agriculture in Congo Brazzaville is still underdeveloped, contributing only

about 4 percent to GDP in 2021. Congo has been investing its scarce resources in agriculture but there is lack of empirical studies supporting the theory that agriculture is primordial for economy growth in the country. To continue using agriculture as source of economic growth, it is important to reevaluate to which extent agriculture contribute to economic growth. It is therefore fair to ask what effect agricultural production has on the Congo's economic growth?

The research problem of the study is to measure the impact of the agriculture sector on economic growth of Congo during the period of 2005 to 2018.

2. Objective of the Study

The main objective of this study is to investigate the impact of agricultural on economic growth in Congo.

3. Literature Review

It highlights the various theoretical and empirical research works that have contributed to the literature on agricultural production and economic growth. Thus, it is subdivided into two subsections: the theoretical approach and the empirical approach.

3.1. Theoretical Approach

We will present two groups of theories. The first one maintains that agricultural production positively influences economic growth. The second however maintains that economic growth occurs when agricultural production is associated with the production of the industrial sector. For the first group, we used the endogenous growth theory and the agricultural growth theory, and for the second, we highlighted the surplus theory.

3.2. Endogenous Growth Theory

Developed by Romer (1986), Lucas (1988) and Barro (1990), the purpose of this theory is to define the sources of economic growth. Growth is considered to be a self-sustaining phenomenon thanks to the accumulation of four main factors, namely: physical capital, human capital, public capital and technology.

Indeed, Lucas (1988) thinks that human capital plays an important role in economic growth because when farmers are young and well trained, they can help increase agricultural production and therefore generate strong economic growth.

Likewise, Romer (1990) also believes that economic growth depends on the accumulation of knowledge because advanced technology stimulates production which in turn will stimulate economic growth.

In the same vein, the theory of the double economy developed by Fei & Ranis (1961) shows us that agriculture has a positive effect on economic growth through the establishment of dualist models that divide the economy into two sectors: the traditional sector dominated by subsistence agriculture and the modern sector

dominated by industry. In this sense, farmers must increase productivity in the agricultural sector in order to enable the development of the industrial sector and therefore boost economic growth.

3.3. Agricultural Growth Theory

Agricultural growth theory developed by Mounier (1994) aims to interpret the relations between agriculture and the rest of the economy. It includes two approaches: a global approach and a multisectoral approach. It shows that agriculture plays a primordial role in production and employment. This agricultural growth theory takes into account human capital through three (3) factors: labor, agricultural income and food prices.

3.4. The Surplus Theory

The surplus theory is based on the work of Lewis (1954), inspired by classical political economy. This theory states that economic growth depends on two sectors: one traditional (agricultural) and the other modern (industrial). He considered that economic development depends relatively on the growth of the mentioned sectors. The shift of labor from the traditional sector to the modern sector develops the economy.

Thus Lewis (1954) believes that there is interdependence between the agricultural sector and the industrial sector. This is because the agricultural sector has a large quantity of labor, which leads to zero marginal productivity. The non-agricultural sector, on the other hand, has abundant capital and resources in relation to labor. Agriculture frees up low-productivity labor to supply other sectors, particularly industry.

3.5. Empirical Research

A number of publications provide some explanations for the effect of agricultural production on economic growth. Among them there are those who argue positive effect of agricultural production on economic growth and those who discuss the contrary.

Several authors argue that growth in the overall economy depends on the development of the agricultural sector (Paul, 2020; Gilbert Jr. et al., 2022). Also, growth can follow from agriculture when countries are invested with large-scale famers (Tatlhego & D'Odorico, 2022; Nkobou et al., 2022; Collier & Dercon, 2009). Advocates of agriculture-led growth (ALG) contend that investment in agriculture and the accompanying creation of infrastructure and institutions in other sectors is a prerequisite for national economic growth (Timmer, 2002). These researchers note that growth in the agricultural sector could be a catalyst for national output growth via its effect on rural incomes and provision of resources for transformation into an industrialized economy (Frimpong, Wei, & Fan, 2022; Thirtle, Lin, & Piesse, 2003).

In contrast to the ALG arguments above, proponents of the opposite viewpoint contend that the agricultural sector does not have strong linkages to other sectors and lack adequate innovative structure necessary for fostering higher productivity and export growth (Lewis, 1954, Hirschman, 1958; Fei & Ranis, 1961; Jorgenson, 1961). In a theoretical analysis, Matsuyama (1992) used the comparative advantage argument to refute the claim that agricultural productivity is an engine of economic growth. Further reflecting this negative view of agriculture in the development process, policymakers in many developing countries proposed and adopted development strategies that were anti-agriculture and rather emphasized the role of the manufacturing sector as the preferred source of economic growth (Okonkwo, 1989; Schiff & Valdez, 1998).

Although several studies have outlined the theoretical relationship between agriculture and economic growth, disagreements still persist. The causal dynamics between agriculture and economic growth is an empirical question worthy of further investigation.

This current analysis attempts to bridge the gap in the empirical literature on the interaction between agriculture and economic growth. The objective of this study is to analyze the relationship between agriculture and economic growth, we use the autoregressive distributed lag (ARDL) error correction modeling approach to investigate both short-run and long-run dynamic causal relationships between agriculture and economic growth.

4. Data and Methodology

Resent study is based on the impact of agriculture production on economic growth in Congo for a period of 2005 to 2018. Gross domestic product per capita is taken as dependent variable and the explanatory variables are as follows agricultural value added (AVA), gross fixed capital formation (GFCF), industrial value added (IVA) and the Corruption Perceptions Index (CPI).

The data for this study are from a quarterly database. These data come from the various sites of international institutions including: the World Bank (2018a), Perspective Monde Congo (2018) and Transparency International (2018).

Data on the average annual growth rate were obtained from the World Outlook Congo (2018) database.

As for the data on agricultural value added, gross fixed capital formation, and industrial value added, they were collected from the World Bank database (2018).

The data on the Corruption Perceptions Index were taken from the Transparency International (2018) database, we developed Figures using Microsoft Excel-2010, and econometric analysis results was made possible through the use of Eviews-9 software.

4.1. Econometric Approach

This approach includes: the theoretical and the empirical model.

4.2. Theoretical Model

The theoretical model used in this study is the one developed by Solow (1956) to which Mankiw, Romer, & Weil (1992) incorporate physical and human capital. We obtain this Cobb-Douglas:

$$Y(t) = K(t)^\alpha + H(t)^\beta + A(t)L(t)^{1-\alpha-\beta} \quad (1)$$

with:

- K_t : represents the physical capital;
- H_t : represents the human capital;
- L_t : represents labor;
- A_t : represents the exogenous technical progress;
- α et β : represent the constants.

4.3. Empirical Model

Given the specificity of the Congolese economy and the availability of economic and agricultural data, we will lean on the empirical model of Amina & Kabuga (2016).

Amina & Kabuga (2016) use the staggered lag linear autoregressive (ARDL) model to assess the impact of agricultural production on economic growth in Nigeria over the period 1986-2015. With GDP as the explanatory variable, agricultural production as the explanatory variable, and gross capital formation and labor force as the control variables. The results obtained after study show that there is a significant positive relationship between agricultural production and economic growth in the short and long term. Thus, the model of Amina & Kabuga (2016) is as follows:

$$GDP_t = \alpha_0 + \alpha_1 AP_t + \alpha_2 GCF_t + \alpha_3 LBR_t + \varepsilon_t \quad (2)$$

- GDP_t : Gross Domestic Product;
- AP_t : Agricultural production;
- GCF_t : Gross capital formation;
- LBR_t : labor force;
- ε_t : Specification error;
- $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$: constants.

From this model, we retain three (3) variables namely: gross domestic product (GDP), agricultural production (AP), and gross capital formation (GCF). Also, we add the variables industrial value added (IVA) and corruption perception index (CPI). The reason for including these two variables is that they are assumed to be related to the endogenous variable (average annual growth rate). Besides, we excluded the labor force variable (LBR) because of data unavailability. Because of its non-stationarity the GDP variable was substituted by the average annual growth rate (AAGR). We also replaced agricultural production by agricultural value added (AVA) because it is an indicator which better explains agricultural production.

Thus, four (5) variables will be used: the average annual growth rate (AAGR),

agricultural value added (AVA), gross fixed capital formation (GFCF), industrial value added (IVA) and the Corruption Perceptions Index (CPI).

The model used to examine the impact of agricultural production on economic growth was expressed as follows:

$$AAGR_t = \alpha_0 + \alpha_1 AVA_t + \alpha_2 GFCF_t + \alpha_3 IVA_t + \alpha_4 CPI_t + \varepsilon_t$$

with:

$\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$: constants;

ε_t : term of errors, t indexing years.

Dependent variable

- AAGR_{*t*}: average annual growth rate.

Independent variables

- AVA_{*t*}: agricultural value added;
- GFCF_{*t*}: represents gross fixed capital formation;
- IVA_{*t*}: represents the added value of the industrial sector;
- CPI_{*t*}: represents the Corruption Perceptions Index.

4.4. Link between the Dependent and Independent Variables

Agricultural Value Added (AVA):

According to [Charts \(2020\)](#), agricultural production is defined as all goods and services related to the transformation of the natural environment. It includes mainly crop and livestock activities. Indeed, the indicator used to measure agricultural production is the agricultural value added. In our work, the latter is used as an exogenous variable and is expressed as a percentage of GDP.

Several authors have highlighted the positive relationship between agricultural production and economic growth: for example the work of [Amina & Kabuga \(2016\)](#). Hence the expected sign is positive (+).

4.4.1. The Industrial Value Added (IVA)

According to [INSEE \(2020\)](#), the value added measures the creation of wealth, the contribution of the production process considered by the economy growth. In our study, it is a control variable and is expressed as a percentage of GDP. Hence the expected sign is negative (-).

4.4.2. Gross Fixed Capital Formation (GFCF)

According to [INSEE \(2020\)](#), gross fixed capital formation consists of the acquisitions of fixed assets by resident producers. These fixed assets are tangible or intangible assets resulting from the production process and used repeatedly or continuously in other production processes for at least one year. In our study, gross fixed capital formation is used as a control variable and is expressed as a percentage of GDP. It refers to a country's investment that is expected to increase output. Hence the expected sign is positive (+).

4.4.3. Corruption Perceptions Index (CPI)

[Alesina & Weder \(2002\)](#) define corruption as the misuse of state property by an

official for personal gain. It is used as a control variable and has no unit. Hence the expected sign is negative (–) (**Table 1**).

Table 1. Summary of expected signs for different variables.

Variables	Assumptions	Expected signs
AVA	Agricultural value added significantly increases economic growth.	+
GFCF	Gross fixed capital formation significantly increases economic growth.	+
IVA	The value added of the industrial sector significantly reduces economic growth.	–
CPI	Corruption perception index significantly reduces economic growth.	–

Source: Author's calculations.

5. Econometric Results

This section deals with some basic econometric issues like stationarity of data, auto regressive distributed lags model and bound testing procedure. Augmented Dickey and Fuller (ADF) test is used to check the order of integration. The use of ARDL model should be justified on the basis of ADF test i.e. if all variables are integrated in different orders such as I(0) and I(1) only then auto regressive distributed lags model (ARDL) can be used. Otherwise if all variables are integrated on I(0) then usually simple ordinary least square method (OLS) is used. Whereas, Johanson co-integration technique is used if variables are integrated on I(1). **Table 2** presents the results of ADF test.

Table 2. Stationarity tests.

Variables	Type of test	without constant and without trend	With constant and without trend	With constant and trend	Critical value (5%)	Stat of test	Decisions
AAGR	ADF	yes	no	No	–1.947665	–4.187011	I(1)
	PP	yes	no	No	–1.946996	–2.763288	I(1)
AVA	ADF	yes	no	No	–1.948313	–2.125097	I(1)
	PP	yes	no	No	–1.946996	–2.612717	I(1)
IVA	ADF	yes	no	No	–1.612229	–1.720570	I(1)
	PP	yes	no	No	–1.946996	–2.820162	I(1)
GFCF	ADF	yes	no	No	–1.947665	–3.007740	I(1)
	PP	yes	no	No	–1.946996	–2.526056	I(1)
CPI	ADF	yes	no	No	–1.948313	–2.436811	I(1)
	PP	yes	no	No	–1.946996	–3.366829	I(1)

Source: Author's calculations. (Eviews-9).

Table 2 presents different stationarity tests (ADF; PP) results of the different variables carried out through the Eviews-9 software. A simple reading of the latter reveals that all the series are stationary in first difference (AAGR; AAGV; IAGV; GFCF; CPI). Moreover, no series is stationary in second difference. This is essential for the application of the ARDL model.

5.1. Choice of the Optimal Model

For the choice of the number of delays, we have chosen the Schwarz information criterion (SCI). **Figure 1** presents the results.

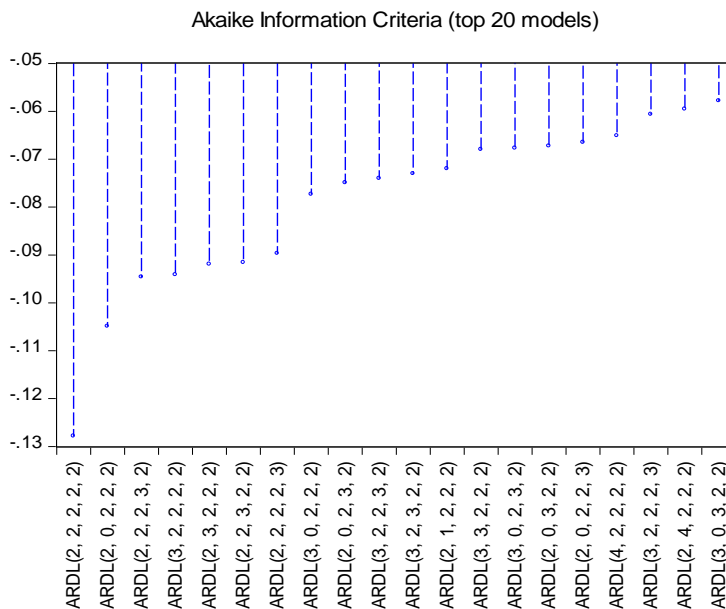


Figure 1. Choice of the optimal model. Source: Author’s calculations.

Figure 1 shows twenty (20) best models according to the Schwarz information criterion. The ARDL (2, 2, 2, 2) model is equivalent to the smallest value of the Akaike information criterion as confirmed in **Figure 1**.

Error Autocorrelation Test

In order to validate our model, it is necessary to carry out an error autocorrelation test (see **Figure 2**). The results of this test show that there is no autocorrelation between the errors because the probability is higher than the 5% threshold (0.406531 > 0.05).

5.2. Cointegration Test Results

The results of the cointegration test are given by the Bounds test and the critical values of the Bounds test.

5.3. ARDL Bounds Test

Table 3 & **Table 4** show the ARDL Bounds test results:

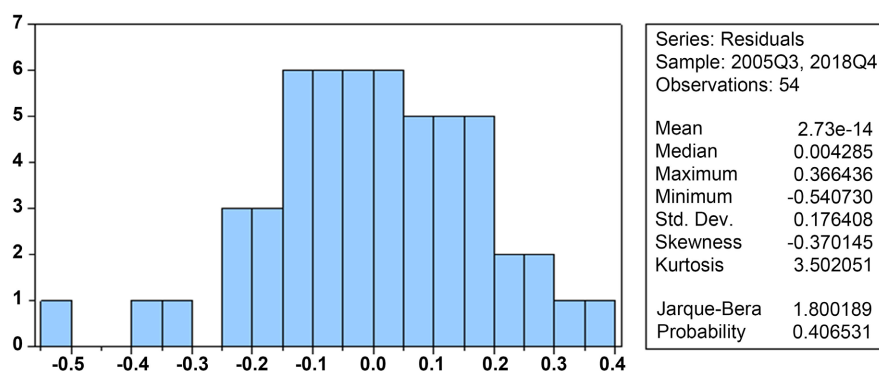


Figure 2. Error autocorrelation test. Source: Author's calculations.

Table 3. ARDL bound test.

T Statistic	Value	K
F-statistic	17.96432	4

Source: Author's calculation.

Table 4. Critical values of the bounds test.

Significance	I0 Bound	I1 Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Test Equation:

Dependent Variable: D(GFCF)

Method: Least Squares

Date: 11/26/21 Time: 16:59

Sample: 2005Q3 2018Q4

Included observations: 54

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GFCF(-1))	0.959778	0.042112	22.79125	0.0000
D(AVA)	1.979520	1.179993	1.677569	0.1014
D(AVA(-1))	-2.315213	0.980735	-2.360690	0.0233
D(IVA)	0.904825	0.174640	5.181096	0.0000
D(IVA(-1))	-0.923622	0.157383	-5.868618	0.0000
D(GFCF)	0.320533	0.083956	3.817892	0.0005
D(GFCF(-1))	-0.329167	0.094764	-3.473540	0.0013
D(CC)	-9.061087	1.249179	-7.253635	0.0000
D(CC(-1))	8.432392	1.069322	7.885739	0.0000

Continued

C	0.698425	3.704556	0.188531	0.8514
IVA(-1)	-0.184194	0.272523	-0.675883	0.5031
IVA(-1)	0.022941	0.030125	0.761514	0.4509
GFCF(-1)	0.029507	0.014211	2.076282	0.0445
CC(-1)	-0.823339	0.456289	-1.804426	0.0789
AAGR(-1)	-0.103169	0.013496	-7.644614	0.0000
R-squared	0.982510	Mean dependent var		-0.104998
Adjusted R-squared	0.976232	S.D. dependent var		1.333908
S.E. of regression	0.205648	Akaike info criterion		-0.095171
Sum squared resid	1.649349	Schwarz criterion		0.457325
Log likelihood	17.56961	Hannan-Quinn criter.		0.117905
F-statistic	156.4907	Durbin-Watson stat		1.550438
Prob(F-statistic)	0.000000			

Source: Author's calculations.

Referring to the asymptomatic critical values proposed by [Narayan & Smyth \(2004\)](#), we reject the absence of a long-run relationship hypothesis because the calculated Fisher statistic ($F = 17.96432$) as shown in [Table 3](#) is above the upper limit for the different significance levels. We conclude that there is a long run relationship between the different variables.

5.4. Long and Short Run Model

- Results of the long and short run estimation between the average annual growth rate and the agricultural value added are shown in [Table 5](#) and [Table 6](#).

Table 5. Short run results.

Variables	Coefficient	Std. Error	t-Statistic	Prob.
D(AAGR(-1))	0.959778	0.026793	35.822122	0.0000
D(AVA)	1.979520	0.884343	2.238409	0.0310*
D(AVA(-1))	-2.315213	0.744992	-3.107703	0.0035**
D(IVA)	0.904825	0.136009	6.652684	0.0000
D(IVA(-1))	-0.923622	0.120493	-7.665345	0.0000
D(GFCF)	0.320533	0.066612	4.811918	0.0000
D(GFCF(-1))	-0.329167	0.071099	-4.629671	0.0000
D(CPI)	-9.061087	0.685423	-13.219694	0.0000
D(CPI(-1))	8.432392	0.719182	11.724984	0.0000
Coint Eq(-1)	-0.103169	0.009356	-11.027449	0.0000

Cointeq = AAGR - (-1.7854 * AVA + 0.2224 * IVA + 0.2860 * FBCF - 7.9805 * CPI) 6666 + 6.769)

Source: author's calculations (Eviews-9). *: significance at 5% level; **: significance at 1% level.

Table 6. Long run model results.

Variables	Coefficient	Std. Error	t-Statistic	Prob.
AVA	-1.785359	2.758920	-0.647123	0.5213***
IVA	0.222363	0.278327	0.798926	0.4292
GFCF	0.286004	0.158070	1.809348	0.0781*
CPI	-7.980492	5.014018	-1.591636	0.1195
C	6.769715	36.376962	0.186099	0.8533

Source: author's calculations Eviews-9.

- In our short run model four variables are significant. These are: agricultural value added (AVA), industrial value added (IVA), gross fixed capital formation (GFCF) and the Corruption Perception Index (CPI). Indeed, the agricultural value-added variable is significant at the 5% threshold and positively influences economic growth by 1.979520%. In other words, when agricultural value-added increases by 5%, economic growth also increases by 1.979520%. This result corroborates with the expected sign of our study and fits well with the endogenous growth theory that agricultural production has a positive effect on economic growth.

Economically, the positive effect of agricultural value added on economic growth in Congo can be explained by the implementation of projects and programs such as the National Development Plan (NDP), the Rural Development Project (PRODER 1, 2, 3), and the Agricultural Development and Rehabilitation of Rural Trails Project (PDARP). These results are in phase with those obtained by [Amina & Kabuga \(2016\)](#). Furthermore, at date $t - 1$ agricultural value added is significant at the 1% threshold and negatively affects economic growth by -2.315213%. In other words when agricultural value added increases by 1%, economic growth decreases by 2.315213%. These results are similar to those of [Salako et al. \(2015\)](#) also presented in our empirical review.

- long-run estimation results

From the different estimation it is shown that the chosen ARDL (2, 2, 2, 2) model is a good model. Indeed, in the top 20 models considered good, it has the advantage of losing less information according to the Akaike criterion. Moreover, its coefficient of determination ($R^2 = 0.976232$) shows us that in the long run, 97.6232% of the variation in the average annual growth rate could be explained by agricultural value added, industrial value added, gross fixed capital formation and the corruption perception index.

Moreover, the coefficient of the Coint Eq(-1) in [Table 5](#) corresponding to the residual lagged by one period and the estimated long-run equilibrium equation is negative (-0.103169) and significant ($p = 0.0000$), which confirms the existence of a short-term relationship between the variables.

The ARDL model (2, 2, 2, 2) validation is also confirmed by the absence of

autocorrelation between the residuals because the probability of Error autocorrelation test Figure confirms that there is no autocorrelation relationship between the residuals ($0.406531 > 0.05$), moreover the Durbin-Watson statistic 1.550438 being close to 2, announces an absence of autocorrelation.

The chosen model is better because the errors do not bias the quality of the information.

In the long run, the variable agricultural value added (AVA) as a variable of interest is not significant, so it does not impact or explain economic growth because, the coefficient associated with this variable is negative (-1.785359%) and lower than its probability (0.5213). Economically, this result can be explained by the fact that Congolese agriculture is mainly a subsistence agriculture (PAP, 2016). It is essentially an organic agriculture because the means of production used are still rudimentary and archaic (hoe, machete, etc.). In addition, the public authorities have given priority to the oil sector, so they have not put in place the necessary investments to develop Congolese agriculture. These results are in line with those of [Eze et al. \(2020\)](#).

6. Conclusion

The present study investigates the impact of agriculture on economic growth in Congo Brazzaville using the Autoregressive Distributed Lag (ARDL) estimation technique, employing data from 2005 to 2018. It emerges from the estimates that in the short run the coefficients associated with agricultural value added (t and $t - 1$) are respectively positive and negative at the thresholds of 5% and 1% and then affect economic growth by 1.979520% and -2.315213% . This result means that in the Republic of Congo, the improvement of agricultural value added contributes to the improvement of economic growth. Furthermore, the positive relationship between agricultural value added and short-term economic growth can be explained by the implementation of programs and policies to develop the agricultural sector. These include the Rural Development Project (PRODER 1, 2, 3), the Agricultural Development and Rural Track Rehabilitation Project (PDARP) in 2013 and the National Development Plan (PND) in 2018.

In the long run, agricultural value added as a variable of interest is not significant. This variable does not impact or explain economic growth in Congo. Because its coefficient (-1.785359%) is lower than its probability (0.5213). This result is explained by the fact that Congolese agriculture is a subsistence agriculture, despite the policies and programs put in place by the State to increase its share in the gross domestic product.

Besides, agriculture still has to face up to the fact that farmers are ageing and young farmers are not interested. This situation can't help increase agricultural production and therefore generate strong economic growth as Lucas said. Despite this, the majority of Congolese farmers still use traditional tools instead of advanced technology which stimulates production and economic growth as stated by Romer.

Limitation and Suggestions

For Further Studies Even though this study shed some light on the impact of agriculture on economic growth in CONGO Brazzaville, its main limitation lie in the small sample size of 13 years; from 2005 to 2018. This limits the extent to which the findings can be generalized to a more long period. Given this highlighted limitation, further research is warranted into extending this period of study. Furthermore, it might be more exciting if future studies can evaluate the impact of agricultural on economic growth in Congo since independence, in 1960 until nowadays. Such research will likely extend understanding on the impact of agriculture on GDP before and after the discovery of oil.

This research pathway is recommended for future studies.

Congo has to increase public and private investment in labor-intensive economic sectors (specially in agriculture sector) that generate wider benefits for society.

Congolese farmers must increase productivity in the agriculture sector which plays a primordial role in production and employment. In order to enable the development of the industrial sector and therefore boost economic growth as stated by Fei and Ranis.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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