IMPACT OF FREE TRADE ON AGRICULTURE: EVIDENCE FROM CAMEROON

Sotamenou Joël, Nehgwelah Glory

Faculty of Economics and Management of the University of Yaounde II (Cameroon), Faculty of Agriculture and Veterinary Medicine of the University of Buea

sotamenou@yahoo.fr, nehgwelahglory@gmail.com

ABSTRACT

This paper investigates the impact of free trade on agriculture in Cameroon. In order to achieve this purpose, annual data for the periods between 1980 and 2015 were tested using the Fully Modified Ordinary Least Square (FMOLS) method. The results show that between 1995 and 2015, the post-liberalization period, free trade policies in Cameroon give room for easy movement of agricultural products thus increase in agricultural production. Other indicators like agricultural capital formation, foreign direct investment, permanent crop land, interest rates and real effective exchange rate also show a positive and significant impact on agricultural value added, meaning increase in investment in the sector affects agricultural production positively.

JEL classification: F19, N77, Q17

Key words: free trade, agriculture, FMOLS, Cameroon

1. INTRODUCTION

Free trade or trade liberalization is often defined as a situation without tariff barriers or with a reduction of tariff and other barriers imposed on the inflow and outflow of goods and services. The rationale of free trade stems from the 18th and 19th centuries when Adam Smith and then David Ricardo developed the basis for international trade as part of their efforts to make a case for free trade (Pugel & Lindert, 2000). For Smith (1978), all commerce between two countries must necessarily be advantageous to both, and consequently, all duties, customs, and excise on imports

should be abolished, and free commerce and liberty of exchange should be allowed with all nations.

According to Altaee & Jafari (2014), free trade has a wide range of benefits to trading nations: it delivers benefits through market access, expanding the demand for goods and services of domestic firms, enabling firms to reach larger markets gains from economies of scale, and increase economic growth rates due to short run gains from resource reallocation. Free trade has been advocated as a necessary tool for poverty reduction, increased mobility of capital, increased productivity and ease of movement of goods and services and information across national borders as well as diffusion of global norms and values, the spread of democracy and international environmental and human rights agreements (Sakyi et al, 2015). Free trade has been also beneficial effects on productivity, the adoption and use of better technology and investment promotion which are channels of stimulating economic growth.

The agricultural sector amongst other sectors has gained significantly from free trade which results from liberalized trade policies as agricultural products need to be more competitive to get expected agricultural production levels. Notwithstanding, some trade restrictions persists in raw agricultural commodities (Verter and Becvárová, 2014). According for Boussard (2016), in recent years, trade in agriculture has not only attracted growing attention but is being viewed as the vehicle for global growth and equity. The liberalization of the agricultural sector aims to increase in exportation and more access to foreign markets. Over the years substantial empirical studies have examined the impact of free trade on agriculture in some developing countries with mixed results (Bresnahan et al., 2016; Talukder, 2014; Anowor et al., 2013; McCorriston et al., 2013). As a developing country, Cameroon is also concern with this problematic.

Cameroon is a lower middle income country located in Central Africa with a total land area of about 475.442 km², a population of about 25 million people and an annual averaged GDP growth rate of 4.60%. It shares borders with Nigeria to the West, Chad to the Northeast, Central Africa Republic to the East, Equatorial Guinea, Democratic Republic of Congo and Gabon to the South. Cameroon has a natural advantageous position in the heart of Africa and it is considered as Africa in miniature because it is endowed with significant natural resources including oil, gas, high value

timber species, minerals, very fertile soils amongst others. Cameroon adheres to a multilateral trade system; it is a member of the World Trade Organisation (WTO) and other regional trade groupings. Cameroon adheres to the agreements of the International Customs Organization (ICO), the European Union (EU) and regional integration within the framework of the Central African Economic and Monetary Community (CEMAC) and the Economic Community for Central African States (CEEAC).

Cameroon's economy is predominantly agrarian and the exploitation of both renewable and exhaustible natural resources remains the driving force for the country's Economic growth. Cameroon relies greatly on agriculture and it is considered the backbone of the country's economy. Agriculture serves as a basis of livelihood for over 70% of the Cameroonian population: it contributes to about 22.3% of the country's GDP, it remains one of the country's leading economic activities and it is the second export commodity of the country. Cameroon is presently said to be one of the most thriving primary commodity based economies in Sub-Saharan Africa. In terms of trade, Cameroon exports agricultural food crops to its neighbouring countries like Gabon and Equatorial Guinea amongst others, while it exports oil, cash crops like cocoa, banana, cotton amongst others, and timber to countries like China, South Korea, U.K. and the U.S. But the European Union (EU) remains its largest trading partner accounting for more than half of the country's exports. Cameroon's economic growth over the last decade has been heavily influenced by the oil and agriculture sectors which accounted for 50 % and 30.1% of its exports, and about 40 % of both its fiscal and export revenue and 22.3% % of its GDP, respectively.

The aim of this paper, therefore, is to econometrically investigate the impact of free trade on the agricultural sector growth in Cameroon between 1995 and 2015. To achieve this objective the paper is structured as follows. In section 2, we present the literature review concerning the nexus between free trade and agriculture in Africa sub-Saharan Africa. Section three provides an overview of free trade in Cameroon. Results are presented and discussed in section four while section five is dedicated to our policy recommendations and conclusion.

2. LITERATURE REVIEW

Globally, many empirical studies show the positive impact of free trade on agriculture in Africa sub-Saharan Africa.

Many studies carries in Nigeria show that free trade has a significant and positive impact on the agricultural sector. Ojeyinka and Adegboye (2017) examine the impact of trade liberalization on performance in the Nigerian economy, with special reference to agricultural and manufacturing sectors. They found a significant positive impact of trade liberalization on the output of agricultural sector while a negative but significant relationship exists between measures of trade liberalization and manufacturing output in Nigeria. They also found that exchange rate exerts a positive but insignificant impact on agricultural output while the effect of inflation on agricultural output is positive and significant within the study period. Anowor et al. (2013) confirmed that agricultural degree of openness and agricultural export to import price ratio have a significant relationship in Nigeria. They affirmed that indeed trade has a positive impact on agriculture, free trade has strengthened the Nigerian agricultural sector.

Bamwesigye and Pomazalova (2015) assessed the impact of trade liberalization on agriculture in Uganda, precisely in the coffee sector as is one of the agricultural products that play a key role on the Ugandan economy. Empirical analyses were made on the consumption, production and export trends. It was affirmed that trade liberalization has led to a boom in the sector and competitiveness has also increased in the sector thus trade liberalization has a positive impact on the agricultural sector.

Talukder (2014) studied the paradox of agricultural trade liberalization in Tanzania and Bangladesh. With data from pre-liberalization and post- liberalization periods, they studied the correlation between domestic and international prices of some agricultural products and the level of agricultural productivity. It was discovered that there was an increase in agricultural productivity as a result of exposure to markets and income earnings potentials through access to open national and international markets. However there was a large increase in price volatility during post-liberalization periods which diminishes the potentials of agricultural trade liberalization for smallholder farmers who are net-deficit producers and net-deficit sellers. They

recommend supplementary policy interventions to achieve enhanced welfare from trade liberalization.

Molua (2008) assessed the impact of trade liberalization on the coffee sector in Cameroon. He analysed the impact of trade facilitation and competitiveness on the coffee sector. He concluded that trade facilitation besides other factors have an effect on the coffee sector in Cameroon. Other factors like transportation, infrastructures, foreign direct investment as well as import export ratio very much influence the growth coffee production and the agricultural sector as a whole.

3.   FREE TRADE AND AGRICULTURE IN CAMEROON

In the late 70s and early 80s Cameroon implemented the inward-oriented trade regime policy which was restrictive and complex. This policy used a wide range of instruments on imports and exports of goods such as high custom tariffs, quantitative restrictions, and pure prohibition amongst others. Imports were subjected to a common external tariff and selectively to incidental taxes. Custom duty was ad valorem or specific and could be applied to all goods whatever the origin except in the case of preferential tariffs. The complexity of this trade regime hindered trade and the flexible movement of goods in an out of the country and led to slow economic growth. Economic growth rate in Cameroon from 1980-1990 was at 2.3%. The Cameroonian economy relied greatly then on petroleum and agricultural exports, but its productivity was said to be volatile and unsustainable (World Bank, 2004). The country experienced a huge economic crisis in 1986 because of the fall in international market prices of Cameroon's main agricultural exports and poor economic policies. This economic crisis coupled with the restrictive trade regime brought about the need for new policy reforms and structural adjustments programs.

In the early 90s the trend towards free trade in Cameroon began. Structural Adjustment Policies were put in place between 1988 and 1991 resulting in a wide range of economic reforms. The overall objective of this policy reforms and free trade was to reduce import tariffs and export subsidies, to restructure the country's production and consumption patterns in order to diversify the sources of foreign exchange earnings, to eliminate trade distortions in order to enhance competition, reduce unproductive public investments by the government and to boost the private

sector (Bamou et al, 2006). There was a relative relaxation of quantitative restrictions on imports and exports and there was a progressive abandonment of these quantitative restrictions. Many commodities did not require import licenses. In 1992-1993, there was a simplification of the process of obtaining import as well as export licenses and authorizations. This structural reform and liberalized trade policies were greatly favourable to the agricultural sector as some products were classified in the free import category. Prices of most agricultural products especially in domestic market such as sugar cane, palm oil and a host of others were liberalized. In 1994, with the adoption of the Regional Fiscal Reform Program (RFRP) initiated at sub-regional level through the Economic and Monetary Community for Central Africa (CEMAC), the international tax system of agricultural products was simplified and average taxation rates were reduced. Later in the late 2000s agricultural products and livestock were exempted from the payment of Value added Tax (VAT).

Ever since trade policies were liberalized the agricultural sector has produced remarkable revenue over the years; there has been increase in the production of both cash and food crops. The subsectors which are currently showing the strongest growth are food crops, especially cassava, maize and plantains and cash crops like cocoa, banana, cotton, sugar cane amongst others. Between 2006 and 2011 agricultural production was relatively stable with an average growth rate of over 4% and till date agricultural products are the second largest exports commodity of the country after petroleum. In 2008 under European Partnership Agreement, almost all products originating in Cameroon were exported into the European Union free of customs duties. Today agriculture in Cameroon is quite productive, extensively managed, and semi market based (Noula et al., 2013; Molua, 2010). Farms and the associated input (storage, transportation and processing subsectors) provide low-cost but high-quality agricultural products for both domestic and foreign consumers and contribute substantially to export earnings. Farmland has been increasing steadily over the past decades and the total annual value of the Cameroon agricultural sector's output is greatly on an increase. Cameroon is one of the few countries in Africa that is close to achieving food security (FAO et al., 2013). The Government's objective at present, originally formulated in the 1990s and

updated in 2012 with assistance from the World Bank is the full and effective dematerialization of import-export transactions in Cameroon.

4. ANALYTICAL MODEL

Many techniques were introduced to investigate the existence of a long-run relationship among variables. This study uses the Fully Modified Ordinary Least Square (FMOLS) (Philips and Hansen, 1990) to investigate the relationship between free trade and agricultural value added. The FMOLS method has an advantage to introduce appropriate correction to overcome the inference problem in EG method and hence, the t-test for long-run estimates are valid (Amarawickrama and Hunt, 2008). The Fully Modified Ordinary Least Squares (FMOLS) method utilizes "Kernal estimators of the Nuisance parameters" that affect the asymptotic distribution of the OLS estimator. In order to achieve asymptotic efficiency, this technique modifies least squares to account for serial correlation effects and test for the endogeneity in the regressors that result from the existence of Co-integrating Relationships (Rukhsana and Shahbaz, 2008).

The Fully Modified Ordinary Least Square (FMOLS) model can be stated in the following functional form:

Agriculture value added $= f$(free trade, Agricultural production, macroeconomic environment)..(1)

The regression model to be adopted is as follows:

Agricultural value added $= \beta_0 + \beta_1$ Free trade$_t + \beta_2$ Real effective exchange rate$_t + \beta_3$ Agricultural capital formation$_t + \beta_4$ Agricultural gross production$_t + \beta_5$ Permanent cropland area$_t + \beta_6$ Agricultural fixed capital formation$_t + \beta_7$ Foreign direct investment$_t + \beta_8$ Interest rate$_t + \varepsilon_t$….(2)

β_0 is a constant and β_1 to β_8 are the regression coefficients.

It is required that the stationary property of the time series be investigated to ensure the use of Ordinary Least Square (OLS) or not. To investigate the existence of long run equilibrium of free trade and agricultural sector growth, we employ the maximum-likelihood test procedure established by Johansen (1991). The co-integration procedure yields two likelihood ratio test statistics, referred to as the trace test and the maximum Eigen value test, which will help determine

which of the four possibilities is supported by the data. The study employs both tests to examine the sensitivity of the results to different tests.

To examine the impact of free trade on agriculture in Cameroon, annual time-series data from 1980 to 2015 were used. We consider two periods: the pre-liberalization period from 1980-1994 and the post-liberalization period from 1995-2015. The series for agricultural value added (percentage of agriculture to GDP) is used as a proxy for agricultural sector growth and trade openness [(export + import)/GDP] is a proxy for free trade. Data are from the WDI and FAO databases. Descriptive statistics of variables used is presented in table 1.

Table 1: Descriptive statistics of variables

	Observations	Mean	Max	Min	Std. Dev.
Agricultural value added	36	13.98327	15.07496	12.93565	0.623526
Free trade	36	13.98742	14.43628	13.46150	0.267487
Real effective exchange rate	36	115.1373	163.5175	86.98583	21.22673
Agricultural capital formation	36	11.54181	12.59384	10.75477	0.577489
Agricultural gross production	36	85.46111	157.2400	46.84000	36.25389
Permanent cropland area	36	2.649557	3.331853	2.145078	0.292844
Agricultural fixed capital formation	36	11.07428	12.01461	5.081404	1.100966
Foreign direct investment	36	1.210084	5.530867	-1.011797	1.377690
Interest rate	36	3.033544	17.08268	-7.932067	4.873801

Source: Authors using World Bank and FAO data from 1980 to 2015

5. RESULTS AND DISCUSSIONS

We set out in this study to investigate in to the effects of free trade on agriculture in Cameroon using trade openness and Agricultural value added as the measures of liberalization and the agriculture respectively. However, before presenting the empirical results of this study, we first present the figures of agricultural value added and free trade to show their evolution from 1980 to 2015 as well as the results of the unit root tests.

Figure 1 show the evolution of trade openness and agricultural value added over the years from 1980 to 2015; a pre-trade liberalization period (1980-1994) and post-trade liberalization period (1995-2015) in Cameroon.
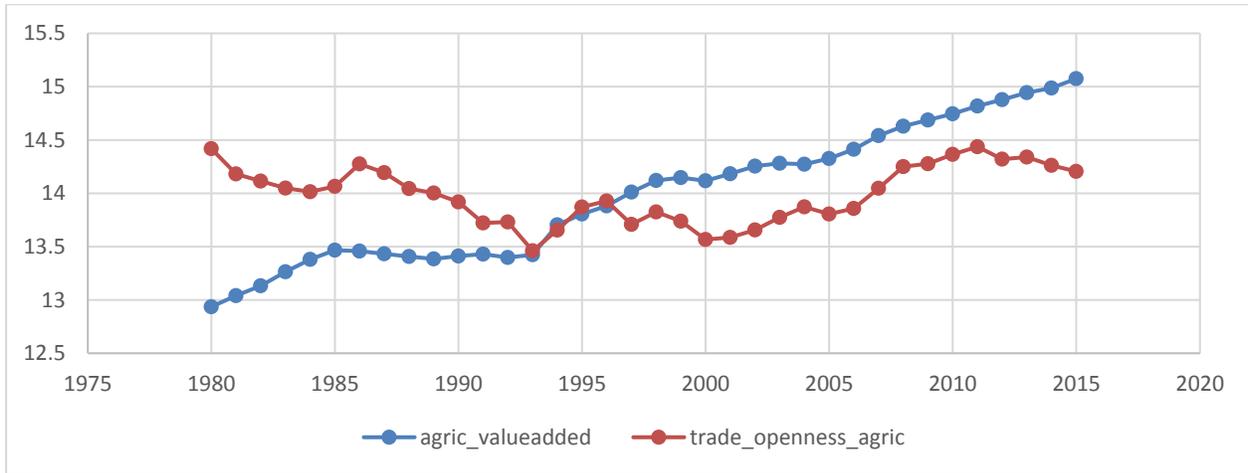
Figure 1: Trends in agricultural value added and free trade from (1980-2015)

Source: Drawn by author from WDI

According to the Figure 1, the agricultural value added and trade openness all evolve in the same direction over time after 1995; it illustrates how much agricultural value added took an ever increasing turn with the implementation of trade policies after the 1990s.

Table 2: Unit root test

Variables	Augmented Dickey Fuller test				Decision
	Level		First Difference		
	trend & inter	Probability	trend & inter	Probability	
Agriculture, value added (% of GDP)	-3.896355	0.0853	-7.761832	0.0000	I(1)
Free trade	-2.083791	0.5365	-5.186265	0.0009	I(1)
Real effective exchange rate index (2010 = 100)	-1.624191	0.7582	-4.910181	0.0026	I(1)
Agricultural capital formation	-2.890962	0.1785	-4.902601	0.0022	I(1)
Agricultural gross production	-1.027048	0.9270	-5.028228	0.0014	I(1)
Permanent cropland (% of land area)	-1.691931	0.7280	-4.075836	0.0175	I(1)
Agricultural fixed Capital formation	- 1.399705	0.8435	-7.428974	0.0000	I(1)
Foreign direct investment, net inflows (% of GDP)	-3.229230	0.3142	-6.117143	0.0001	I(1)
Interest rate (lending rate)	-1.533413	0.7941	-5.305807	0.0010	I(1)

Source: Computed by author using E-views 8

The unit root test permits us to know exactly the number of times we have to differentiate a series in order to make it stationary, if it becomes stationary after first difference we say it is integrated of order one (1). Table 2 shows that all the variables in this study are integrated of the order one (1) meaning that it is possible for a long run relationship to exist between free trade and agricultural sector growth in Cameroon.

Table 3 shows that there are four co-integrating relationship (at the 0.05 level) between free trade and agricultural output. Therefore a linear combination of these variables give a stationary series (I(0)). This confirms the fact that there is a long run relationship between the variables of the study. The FMOLS regression is used to investigate the relationship between free trade and agriculture. Table 4 shows the results of this regression. The adjusted R^2 shows that 97.11% (adjusted R – squared 95.59%) of the variations in agricultural output is explained by the combined influence of free trade and economic environment indicators in the model. The Durbin Watson statistic measures the serial correlation of the variables. The result of the Durbin Watson test shows 2.02. Since the value is approximately 2.00, it is accepted that there is no autocorrelation among the successive values of the variables in the model.

From the empirical results, trade openness, a significant indicator of free trade has a positive and significant impact on agricultural value added. This ties with the research of Anowor et al. (2013) and De Silva et al. (2014). Thus a unit change in free trade leads to an increase in agricultural output by 10.4% units. This can be explained by the fact that as trade policies open boarders for easy movement of goods and services, these policies have promoted the liberalization of the agricultural sector in terms of imports, exports and prices. With the quest for increasing agricultural output for both foreign and domestic markets, there has been an increase investment in agriculture and yields per hectare leading to overall increase in agricultural output and thus agricultural value added.

The results also shows that a unit change in permanent crop land leads to an increase in agriculture value added by 7.4 units. This shows that the implementation of free trade policies has provoked the need to increase hectares of permanent crop land for agricultural products such cocoa, coffee, banana, rubber amongst others thus leading to increase in agricultural production and exports. This

is because the removal of trade distortions facilitates exportation of goods to foreign markets of high demand, so there is need to increase production and improve on agricultural output to meet up with demand. Permanent crop land has a significant positive effects on agricultural value added.

Table 3: Johansen Co-integration test

Unrestricted Co-integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.865491	285.6480	197.3709	0.0000
At most 1 *	0.849207	217.4397	159.5297	0.0000
At most 2 *	0.771353	153.1169	125.6154	0.0004
At most 3 *	0.654626	102.9473	95.75366	0.0146
At most 4	0.519561	66.80097	69.81889	0.0850
At most 5	0.389063	41.87712	47.85613	0.1622
At most 6	0.297599	25.12322	29.79707	0.1571
At most 7	0.253855	13.11269	15.49471	0.1107
At most 8	0.088653	3.156287	3.841466	0.0756

Trace test indicates 4 co-integrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Co-integration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.865491	68.20826	58.43354	0.0042
At most 1 *	0.849207	64.32283	52.36261	0.0020
At most 2 *	0.771353	50.16961	46.23142	0.0181
At most 3	0.654626	36.14631	40.07757	0.1298
At most 4	0.519561	24.92385	33.87687	0.3902
At most 5	0.389063	16.75391	27.58434	0.6012
At most 6	0.297599	12.01053	21.13162	0.5466
At most 7	0.253855	9.956404	14.26460	0.2148
At most 8	0.088653	3.156287	3.841466	0.0756

Max-eigenvalue test indicates 3 co-integrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: computed by author using E-views 8

Table 4: FMOLS regression for free trade on agricultural sector growth

Dependent Variable: Agricultural value added				
Method: Fully Modified Least Squares (FMOLS)				
Sample (adjusted): 1981 -2015				
Co-integrating equation deterministics: C				
Long-run covariance estimate (Prewhitening with lags = 1, Bartlett kernel, Newey-West fixed bandwidth = 3.0000)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Agricultural capital formation	0.226076	0.059442	3.803310	0.0014
Agricultural fixed capital formation	0.012676	0.067204	0.188613	0.8526
Agricultural gross production	0.012741	0.000558	22.81578	0.0000
Foreign direct investment	0.034502	0.003075	11.21973	0.0000
Interest rate	0.020887	0.002102	9.936934	0.0000
Permanent cropland area	0.745035	0.050971	14.61680	0.0000
Real effective exchange rate	-0.005053	0.000339	-14.90136	0.0000
Free trade	0.104416	0.036871	2.831938	0.0115
C	9.227208	0.570706	16.16805	0.0000
R-squared	0.971171	Mean dependent var		13.76653
Adjusted R-squared	0.955909	S.D. dependent var		0.444011
S.E. of regression	0.093233	Sum squared resid		0.147770
Durbin-Watson stat	2.026644	Long-run variance		0.000347

Source: Author using Eviews 8

The contribution of agricultural capital formation to the development and growth of the agricultural sector in Cameroon is equally highlighted by the results. There is a positive and significant impact of agricultural capital formation on agricultural value added. This therefore means that a unit change in agricultural capital formation leads to an increase in agricultural value added by 0.226 units. The importance of capital formation is given the fact that second generation agriculture is being encouraged in Cameroon; with the removal of trade distortions it gives rooms for the acquisition of capital equipment; machineries, seed and other inputs employed in the agricultural sector.

The impact of interest rate on agriculture value added is positive and significant; this underlines the ability of the economy to finance agricultural projects. With the development of schemes and programs to promote the financing of agricultural production, especially those with principal

objective for commercial purposes, commercial banks and Micro finance institutions are increasingly providing finance to viable agricultural projects at favourable interest rates which go a long way to improve on agricultural production and thus agricultural value added.

Foreign direct investment has a positive impact on agriculture value added, a unit change in foreign direct investment leads to an increase in agriculture value added by 0.034 units. This result is predictable because part of foreign direct investment in Cameroon is in the agricultural sector due to the competitive advantage of Cameroon which is principally an agrarian economy. Options to develop the sector and attract foreign investors especially in the light of intensification and promotion of second generation agriculture (mechanized agriculture) with special ascent on domestic processing will be very important.

The results equally show that there is a negative and significant impact of real effective exchange rate on agricultural value added. This is principally because as the FCFA is pecked to the euro real effective exchange rate volatility is reduced which permits farmers to benefit from stable prices. However, trade with other countries is not subject to the stability of euro with FCFA, thus there is fluctuation which turns to have adverse effects on value added. The competiveness of Cameroonian products in foreign market is equally increased by appreciation of the FCFA with respect to other countries thus leading to increase in demand for Cameroonian products.

6. CONCLUSION AND RECOMMENDATIONS

Conclusively, the objective of this paper was to empirically investigate the impact of free trade on agriculture in Cameroon. Time series data from 1980-2015 was extracted from the world development indicators (WDI) and FAO databases, the FMOLS served as method of analysis, E-views 8 was used for data analysis. From the results we found evidence that trade liberalization has a positive and significant impact on agricultural sector growth in Cameroon. This was illustrated through the bidirectional relationship between free trade and agricultural value added, and the positive and significant impact of free trade on agricultural value added. The results show that free trade has a positive significant impact on agricultural value added at 1% level, meaning a unit change in free trade leads to an increase in agricultural output by 10.4% units. There is a

positive and significant impact of agricultural capital formation on agricultural value added too, this means that an increase in agricultural capital formation leads to an increase in agricultural value added by 0.226 units. Permanent crop land has a significant impact as well on agricultural value added; a unit increase in Permanent crop land leads to an increase in agriculture value added by 7.4 units. The impact of foreign direct investment on agriculture value added is positive, a unit increase in foreign direct investment leads to an increase in agriculture value added by 0.034 units. The impact of interest rate on agriculture value added is positive and significant on agricultural value added meaning more loans to local farmers at lower interest rates will boost agricultural investment and productivity. We recommend that the government should emphasis on the implementation of sustainable mechanized agriculture so as to improve on agricultural production in Cameroon. And there should be strict implementations of adopted liberalize trade policy to further liberalize the agricultural sector and facilitate trade. More financial aids and inputs should be given to local farmers and other common initiative groups by the government.

CONFLICTS OF INTEREST AND PLAGIARISM: The authors declare no conflict of interest and plagiarism.

REFERENCES

1. Altaee H.H.A. & Al-Jafari M.K. (2014). Financial development, trade openness and economic growth: a trilateral analysis of Bahrain. *International Journal of Economics and Finance*, 7(1), 241.

2. Amarawickrama H.A. & Hunt L.C. (2008). Electricity demand for Sri Lanka: a time series analysis. *Energy,* 33(5), 724-739.

3. Anowor O.F., Ukweni N.O., & Martins I. (2013). The Impact of Trade Liberalisation on Nigeria Agricultural Sector. *Journal of Economics and Sustainable Development*, 4(8), 14-24.

4. Bamou E., Tankou L.B., & Tchanou J.P. (2006). *Trade and investment policy reforms in Cameroon: Impact assessment and perspectives.* Monograph, University of Yaoundé II, Cameroon.

5. Bamwesigye D., Nataša P. & Vojtěch T. (2015). Socioeconomic development in context of economic changes in commodity chain of coffee in *Uganda, East African Region.* Proceedings ICABR 2015 101.

6. Boussard J.M. (2016). *Market Dynamism, Trade and Comparative Advantage in Agriculture and Food Industries.* Agriculture and the World Trade Organisation: Indian and French Perspectives, 227.

7. Bresnahan L., Coxhead I., Foltz J. & Mogues T. (2016). Does Freer Trade Really Lead to Productivity Growth? Evidence from Africa. *World Development*, 86, 18-29.

8. Charlier F. & N'Cho-Oguie C. (2009). *Sustaining reforms for inclusive growth in Cameroon: a development policy review*. The World Bank, Washington DC

9. De Silva N., Malaga J., & Johnson J. (2014). Trade liberalization effects on agricultural production growth: the case of Sri Lanka. *Journal of Agricultural Economics and Development* Vol. 3(9), pp. 144-151, November 2014

10. FAO, IFAD and WFP (2013). *The State of Food Insecurity in the World. The Multiple Dimensions of Food Security.* FAO, Rome, 56p

11. Irwin D.A. (2015). *Free trade under fire. Fourth Edition*. Princeton University Press, 368p.

12. Johansen S. (1991). Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models. *Econometrica: Journal of the Econometric Society* 1551-1580.

13. Kalim R., & Shahbaz M. (2009). Remittances and poverty nexus: Evidence from Pakistan. *International Research Journal of Finance and Economics*, 29(2), 45-59.

14. McCorriston S., Hemming D.J., Lamontagne-Godwin J.D., Parr M.J., Osborn J., & Roberts P.D. (2013). *What is the evidence of the impact of agricultural trade liberalisation on food security in developing countries.* A systematic review. London: EPPI Centre, University of London.

15. Molua E.L. (2008). Assessment of trade facilitation and competitiveness of Cameroon's coffee sector: Implications for trade liberalization. *Trade Policy Review*, 92.

16. Molua E.L. (2010). Rice production response to trade liberalization in Cameroon. *Research Journal of Agriculture and Biological Sciences*, 6(2), 118-129.

17. Ojeyinka T.A., & Adegboye A.A. (2017). Trade liberalization and economic performance in Nigeria: Evidence from agricultural and manufacturing sectors. *African Journal of Economic Review,* 5(3), 1-14.

18. Pugel T.A. & Lindert P.H. (2000). *International economics*. 11th Edition, London: McGraw-Hill.

19. Sakyi D., Commodore R., & Opoku E.E.O. (2015). Foreign direct investment, trade openness and economic growth in Ghana: An empirical investigation. *Journal of African Business*, 16(1-2), 1-15.

20. Smith A. (1978). Early draft of part of the wealth of nations. In *The Glasgow edition of the works and correspondence of Adam Smith,* Vol. 5, eds. Ronald L. Meek, D. D. Raphael, and Peter Stein. Oxford: Oxford University Press, 562-581.

21. Talukder D. (2014). Agricultural trade liberalisation and price volatility in Bangladesh and Tanzania: a comparative analysis. *Africanus,* 44(2), 15-32.

22. Verter N. & Becvárová V. (2014). Analysis of some drivers of cocoa export in Nigeria in the era of trade liberalization. *Agris on-line Papers in Economics and Informatics*, 6(4), 208-218.