



Is Cameroon worse off or better off with foreign aid on its economic growth in the 21st century?

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Abstract: *Although foreign aid has promoted economic growth in some countries in many others, it has failed. This paper analyzes if Cameroon is worse off or better off with foreign aid on its economic growth in the 21st century in the long run and short using yearly time series data from 1970 to 2021 obtained from the World Bank development indicator. The dependent variable was economic growth measured by GDP per capita while the independent variable was foreign aid control with government expenditure, Human capital development, foreign direct investment and gross capital formation. The ARDL approach to cointegration (bounds test) was employed to analyze the relationships between foreign aid and economic. The results suggested in all scenarios that foreign aid has greatly worsened Cameroon economic growth in the 21st century by indicating a negative and insignificant long run effect on the GDP. Government expenditure also showed a negative and insignificant long run effect on the GDP. However, domestic investment emerged with a positive sign all round supporting the view that, investment appears to be a strong booster of Cameroon's economic growth. HCD and FDI had a positive long run insignificant relationship on Cameroon economic growth. The paper recommends that the capabilities of the citizens of Cameroon needs to be created so that they become creators of wealth and creators of enterprise; so that they can live from their own activities. Again, foreign aid should be geared towards capital formation and skills development of labour through education and training.*

Key words: Economic growth, foreign aid, Government Expenditure; gross capital investment human capital development, foreign direct investment.

1. Introduction

According to the organization for economic cooperation and development (OECD, 2014), foreign aid or development assistant (ODA) refers to all grants and loans that are intended to assist developing countries' economic growth and welfare. Aid is primarily provided to developing countries by developed countries, either directly or indirectly, through multilateral institutions or private voluntary organizations such as the World Bank, as well as nongovernmental organizations (NGOs) to promote their social and economic growth (Todaro 1997, p 533). Balance of payment support, project assistance, food aid, technical assistance, and human development assistance are some of the examples of foreign aid provided to developing countries (Brewster and Yeboah 1994). Foreign aid continues to be one of the most important sources of external financing for less-developing countries. International assistance is also intended to

achieve a broad variety of objectives. The development of private enterprise and the capitalist economy, democratization and human rights, population reduction, and environmental conservation are all linked to the provision of assistance by developed countries (OECD 1990). According to neoclassical theory, foreign saving and aid help to supplement domestic savings, increase investment, and thus stimulate economic development (Levy 1987). Another reason for aid is its role in alleviating poverty and redressing income inequality in developing countries, which is often linked to economic development (UNDP 1996). For a long time, one of the primary goals of international assistance has been to foster long-term development.

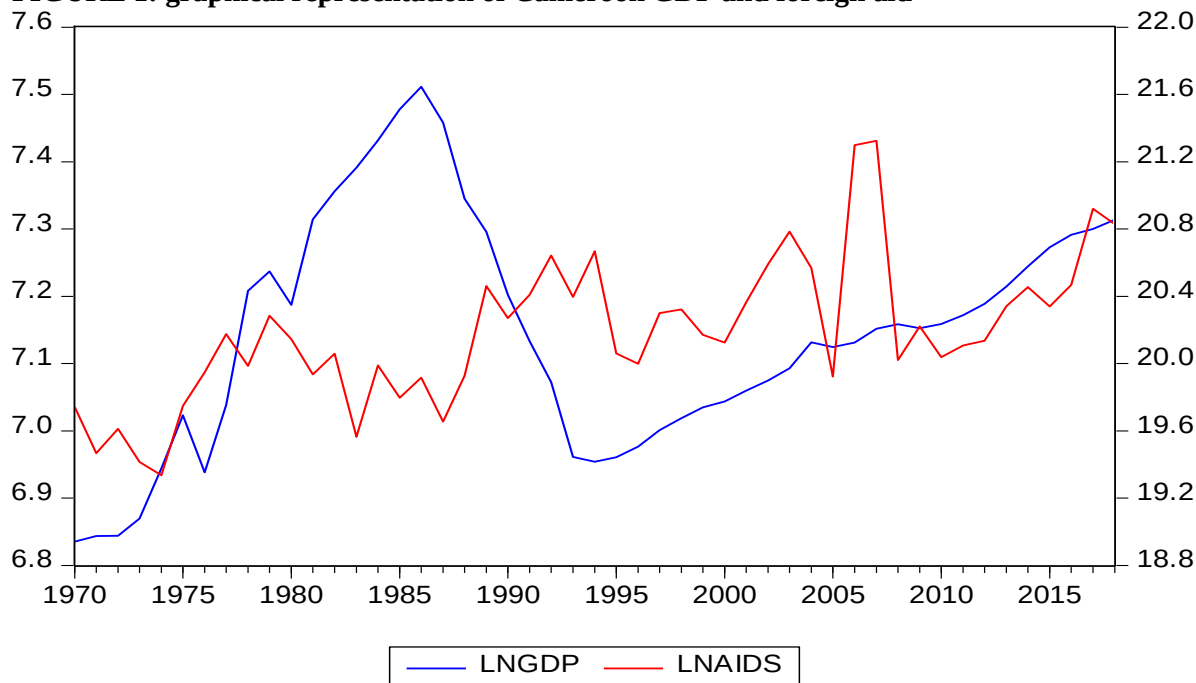
Economic research on foreign aid effectiveness and economic growth in Africa, especially in Cameroon, has frequently become a political football. When a regression result on foreign aids is run in Africa, especially in



Cameroon context, content is often stripped away, resulting in a result that differs from what the original study actually demonstrated. In public debate, Cameroon is one of the world's most highly aided nations. After its unification in 1961, Cameroon received a considerable amount of foreign aid, the bulk of which has come from France (one of its former colonizers), the European Economic Community, and other multilateral agencies. Despite the fact that US development and technical assistance to Cameroon has risen dramatically in recent years, France remains the country's largest donor. Despite significant donor involvement in the country's economy, it is clear that less economic growth and poverty have persisted for many years. Looking at figure 1 of Cameroon economic growth and foreign assistance, it can be seen generally that foreign help and GDP has an inverse relationship. Since the independence of Cameroon, it

recorded its highest GDP in 1986 of about 7.51% and its highest aid of about 21.32% received in 2007. This clearly shows that foreign aid had a negligible effect on Cameroon's economic growth. Despite this paradox, few studies have concentrated on assessing the efficacy of aid in such a country to assess whether aid has been effective or whether persistent poverty in such an aid-dependent country is the result of aid ineffectiveness. However, the evidence shown by the existing researches is contradictory as to the contribution of foreign support to economic development. Some believe that decades of international assistance to Cameroon has had little effect on the country's destiny since the country is currently experiencing low economic growth rates while others say foreign aid has pushed Cameroon's growth ever since the country gained independence till date.

FIGURE 1: graphical representation of Cameroon GDP and foreign aid



It's worth noting that Cameroon experienced a serious economic crisis between 1986 and 1993 as a result of the global market fall in oil prices. As a result, spending fell, public debt accumulated, and arrears were paid. Following the depreciation of Cameroon currency (CFA) against the French currency (FF) in 1994, however, economic growth

was once again on the horizon. Since then, the growth rate has remained relatively constant, just exceeding 5%. Between 2006 and 2007, Cameroon obtained US \$1.130 billion and US \$911 million from the IMF, IDA, and the African Development Fund (AfDF) under the Heavily Indebted Poor Country (HIPC) initiative, which supported



Cameroon with a 100 percent debt cancellation and was followed by the Multilateral Debt Relief Initiative (MDRI) (IMF, 2006). Since then, ODA inflows have been extremely low.

The Paris Declaration (PD) was signed by representatives of the Organization for Economic Co-operation and Development (OECD) and the Development Assistance Committee (DAC) in 2005, taking the issue of aid effectiveness to the forefront. The effect of foreign aid on economic growth has long been a source of debate. The efficacy of help flows refers to how well they achieved the goal for which they were intended. Despite the fact that the literature review includes a variety of perspectives on how to evaluate the effect of aid on economic development in developing countries, it is important to note that the aid-growth problem in Cameroon is particularly pressing. In their studies, Boone (1994), Mosley (1987), Brewster et al (1994) and Vasquez (1998) using panel data looked at the relationship between official aid flows and economic development. They discovered that foreign aid has a negligible effect as a fundamental feature of economic development. As a result of the findings, the US Congressional Budget Office (1997) issued a statement condemning foreign aid in general, arguing that "foreign aid appears to have only a small effect" on development and may even hinder it. Levy (1987), Hansen and Tarp (2001) and Pallage and Robe (2001) on their own part saw a positive connection between aid and economic growth in Africa, especially in Sub-Saharan African countries as opposed common belief. Furthermore, he noted that the rate of growth was affected by fixed capital development. Nonetheless, many arguments have been made to support the notion that aid does not necessarily promote development.

If researchers ignore the effect of aid on development, the subject will be open to both theoretical and detrimental contributions. The economic objective of aid inflows is that it raises the stakes of economic growth, if properly used; it can provide major benefits to recipient countries but also putting the economy at risk of being uncompetitive and jeopardizing export-led growth prospects.

Given the nature of the issue, as well as the fact that literature on aid-growth analysis "as applied to the case of Cameroon" is still scarce and contradictory, avoiding a

research paper of this nature becomes difficult. That is, assessing the long- and short-term impact of foreign assistance on Cameroon's economic development. To put it another way, assessing if 21st-century foreign assistance has any meaningful effect on fostering Cameroons economic development in the long and short term remains a challenge. To do so, I used data from the World Bank's database, which spans from 1970 to 2018.

2. **LITERATURE REVIEW.**

Literature on aid and economic development has been inconsistent as far back as 1960s, due to lack of data and considerable debate on how aid can influence growth. There are two basic stands of literature that describe the relationship between foreign assistance and growth in developing countries: one that supports the idea that aid can buy growth and the other that opposes it.

In a study of 53 nations, Hansen and Tarp (2001) looked at whether foreign assistance encourages economic development. According to their findings, foreign aid has a positive effect on economic development through investment and human resources, and that sound policy is not needed. For a sample of 71 aid-receiving developing countries, Karras (2006) examines the relationship between foreign aid and per capita GDP growth using annual data from 1960 to 1997. He came to the conclusion that foreign assistance has a consistent and long-term positive impact on economic development. According to statistics, a \$20 per person permanent rise in foreign assistance results in a 0.16 percent increase in real GDP per capita growth rate. Without accounting for policy consequences, these findings were obtained.

According to Pallage and Robe (2001) Africa main source of economic growth and development comes from foreign aid, where it accounts for 12.5 percent of GDP and is the single largest source of foreign capital. They added that in such circumstances, foreign support has the potential to help developed countries improve their economic growth while also reducing poverty. Similarly, Addison et al. (2005) looked at developments in ODA to Africa from 1960 to 2002 and finalized that foreign aid does foster development and poverty reduction. It also benefits the public sector, resulting in increased government expenditure and lower domestic borrowing. Burnside and Dollar (2000) used conventional cross-country panel



regressions with an aid-policy index interaction term and concluded that aid increased growth and development in developing countries as long as good macroeconomic policies are put in place.

Papanek (1973) using 34 cross-country regressions, affirms that foreign aid increases economic growth than the other macroeconomic variables such foreign investment and domestic savings. Foreign aid and domestics saving were seen to have a negative relationship which he believes helped development. Snyder (1993) in his study discovered a positive relationship between foreign assistance and economic development when country size is taken into account. According to him pass econometric analysis did not take into account that larger countries grow faster with less foreign assistance. He also believes that small countries are preferred by donors for a variety of reasons.

From 1980 to 2010, Antwi, Mills, and colleagues (2013) studied the effects of Ghana's macroeconomic determinants on its economic growth. They concluded using Cointegration and error correction models that a long-run relationship exists between physical resources, foreign direct investment, foreign assistance, inflation, and government spending on economic growth. It's also worth noting that short-term shifts in the labor force have little impact on economic development. The calculated ECM coefficient suggests a slow rate of equilibrium change. Galiani et al. (2016), on the other hand, used a quasi-experiment to look at the impact of assistance on development in 35 countries from 1987 to 2010. They discovered that help and economic development have a beneficial relationship.

Using empirical growth literature and taking china and Africa as case study, Anyanwu (2014) investigated the main microeconomic factors affecting economic growth and concluded that Domestic investment, foreign aid, human capital creation, government effectiveness (governance), and urban population all contributed to economic growth in Africa (1996–2010) and China (1984 to 2010). Domestic investment and trade openness boosted China's economic growth, while credit to the private sector, agricultural material prices, foreign aid, population growth, inflation, and oil price indices slowed it. Asheghian (2009) used an augmented neoclassical growth

model to study the determinants of economic growth in Japan between 1971 and 2006. Using the Beach-Mackinnon approach, the researchers came to the conclusion that total factor productivity and domestic investment growth rates were both positive for economic growth.

Some scholars and analysts, on the other hand, have challenged the importance of foreign aid in terms of economic development, citing a number of political, economic, and strategic arguments. According to Boone (1996), "assistance becomes a waste when it is provided to countries that lack the technical and administrative ability to absorb and use it effectively". Majority of assistance to developing countries is not always used for the intended purposes. Many reports have claimed that aid does not even help developing countries progress economically. Bauer (1991), affirms that aid increase government's political strength, revenue, and patronage in relation to the poor since it is usually provided to governments in those countries. As a result, political uncertainty occurs as a vast amount of resources, attention, and money are diverted to non-productive and non-economic activities. Dollar and Easterly (1999) found aids weak to support investment in Africa, corroborating this argument. Burnside and Dollar (1997, 2000) and Alesina and Dollar (2000) found that in Africa, aid has a negative effect on economic growth. Studies carried out by Griffin and Enos (1970) from 32 Latin American countries from 1957 to 1964, discovered that assistance has a growth-depressing impact. Voivodas (1973) Using data from 22 LDCs from 1956 to 1968, discovered that assistance has a significant negative effect on development.

Gong and Zou (2001) found that Foreign aid reduces domestic savings, mainly by consumption, and has no effect on investment or development in developing countries. They also indicated that a constant increase in foreign assistance tends to reduce long run labor supply and capital accumulation. Based on Burnside and Dollar's previous work, Easterly, Levine, and Roodman (2003) devise a new test while observing larger sample size (1970 to 1997) compared to BD's (1970-1993), they concluded that the issue of aid effectiveness remains inconclusive. Mallik (2008), on his part, argued that international assistance had a negative effect on



economic development in the long run hence affect the living conditions of citizens. According to Mitra and Hossain (2013), studying 13 Asian countries concluded that there exist a negative short-term and long-term relationship between international assistance and economic development. They found that a 1% rise in foreign assistance resulted in a 0.18 percent drop in economic growth in Asian economies. Specifically, the study showed a 1% increase in foreign aid contributed to a 0.51 percent drop in economic growth in the Philippines. From 1974 to 2009, Dreher and Langlotz (2015) used an excludable instrument to look at the effect of assistance on development in 96 countries. They came to the conclusion that assistance had no effect on development.

Kesuh. J, chi A, Nebong N, Akume D, Jumbo E., A and J.U.J onwumere (2021) Examined key selected macroeconomic determinants on Cameroon's economic growth in the long and short term from 1970 to 2018. The findings show a positive and significant relationship between economic growth and government expenditure, trade openness, gross capital formation, and exchange rate in the long and short run while a negative and significant relationship existed between economic growth and human capital development, foreign aid and money supply in the short and long run.

To investigate the factors that influence Sub-Saharan African economic growth, Ndambiri et al. (2012) used a panel Generalized System of Moments (GMM) method spanning the years 1982 to 2000. The results showed that Physical capital development (investment), the export market, and human capital formation all had a substantial effect on economic growth. Furthermore, Government spending, the nominal discount rate, and international assistance, had a negative effect on economic growth. The researchers recommended that foreign aid be rejected because it is not only unprofitable but also causes negative growth. From 1985 to 2010, Liew et al. (2012) found a negative association between foreign assistance and economic growth in East African countries using pooled ordinary least squares, random effect, and fixed effect models.

Other researchers such as Mosley et al. (1987), Boone's (1996) and Lensink and Morrissey (2000) saw no connection between foreign assistance and economic

development The effect of foreign aid on economic growth is inconclusive, in econometric analyses, data and country application as evidenced by the literature survey above.

3. DATA AND METHODOLOGY

Time series data from World Bank Development Indicators (WDI) Database for Cameroon was used. This paper attempts to determine whether or not twenty-first-century foreign aid has a significant long-term and short-term impact on promoting a Cameroon's economic growth. An econometric model is used to investigate aid indicators and economic development in Cameroon. Economic growth is the dependent variable, while foreign assistance metrics are the independent variable. The variables for the study are based on the World Bank's Development indicators and are contingent on data availability for our study sample over a long period of time (1970-2018) annually. The effect of foreign assistance or (ODA) on GDP is either positive or negative, according to empirical findings from the literature of some African countries with no evidence from Cameroon. The descriptive statistics and correlations of the variables are summarized in table 1.

3.1 Model Specification:

The GDP, foreign assistance (AID), general government final consumption expenditure (GOVEXP), Human Capital Development (HCD), foreign direct investment (FDI), and Gross capital formation (INVEST) variables were all converted into a logarithmic form prior to the calculation. Previous studies have extensively used the different factors in the model, such as Morrissey (2001), Rajan and Subramanian (2008), Wu and Hsu (2008), Mitra and Hossain (2013), Galiani et al. (2004). Our chosen model for this paper is expressed as follows:

GDP = MEI (GOVEXP, HCD, AIDS, TOP, FDI, INVEST, M2, EXCHRATE, INFLA).

Hence, the econometric model will be specified as:

$$\text{LNGDP} = \beta_0 + \beta_1 \text{LNAID}_{it} + \beta_2 \text{LNGOVEXP}_{it} + \beta_3 \text{LNHCD}_{it} + \beta_4 \text{LNFDI}_{it} + \beta_5 \text{LNINVEST}_{it} + \epsilon_t \dots \dots . \quad 1$$

Where,

Dependent Variables

GDP_{it} = real GDP_{it} per capita (current us\$)for equation1

Explanatory Variables



$AIDS_{it}$ = official development assistance received (constant 2015 US\$) of country i at time t

$GOVEXP_{it}$ = General government expenditure (% of GDP) of country i at time t

HCD_{it} = Human capital development (% of gross) of country i at time t

FDI_{it} = Foreign direct investment (% of GDP) of country i at time t

$INVEST_{it}$ = Gross capital formation (% of GDP) of country i at time t

4. Presentation and discussion of results

Table 1: Descriptive statistics

	GDP	AIDS	GOVEXP	HCD	FDI	INVEST
Mean	1296.711	6.33E+08	11.07488	27.20552	2.457352	22.05241
Median	1276.060	5.61E+08	11.10516	25.81295	0.887926	22.35885
Maximum	1829.195	1.82E+09	13.27465	60.05816	19.03948	31.24881
Minimum	938.0023	2.50E+08	8.837744	8.170410	0.001202	14.30539
Std. Dev.	224.2547	3.22E+08	1.124151	13.42664	3.935537	3.551837
Skewness	0.558041	2.182793	-0.312829	1.042532	2.676501	0.216281
Kurtosis	2.730180	8.712993	2.372129	3.496376	10.56360	3.019569
Jarque-Bera	2.362207	92.62313	1.407659	8.230708	153.8372	0.335925
Probability	0.306940	0.000000	0.494687	0.016320	0.000000	0.845386
Sum	55758.56	2.72E+10	476.2199	1169.837	105.6661	948.2537
Sum Sq. Dev.	2112187.	4.37E+18	53.07601	7571.532	650.5151	529.8530
Observations	43	43	43	43	43	43
Correlation						
GDP	1.000000					
AIDS	-0.076220	1.000000				
GOVEXP	-0.314284	0.051453	1.000000			
HCD	0.234289	0.288505	0.455962	1.000000		
FDI	0.276994	-0.011856	-0.142225	0.242208	1.000000	
INVEST	0.532045	-0.115598	-0.544267	0.107614	0.254676	1.000000

Source: Eview 10 computation 2020

Table 1 indicates that the Gross Domestic Product per capita, or LNGDP, has an average value of 1296.711, with a standard deviation of 224.2547, and a maximum value of 1829.195 and a minimum value of 938.0023, indicating that the GDP has fluctuated over the years of research. Official Development Assistance or Official Aid Received,

also known as international aid, has an average value of 6.33E+08 and a standard error of 3.22E+08, with a maximum value of 1.82E+09 and a minimum value of 2.50E+08. GOVEXP stands for Government Expenditure and has an average value of 11.07488 percent and a standard error of 1.124151 percent, with an overall value



of 13.27465 and a minimum value of 8.837744. Human capital growth, or HCD, has an average value of 27.20552 percent and a standard error of 13.42664 percent, with a maximum value of 60.05816 and a minimum value of 8.170410. Foreign Direct Investment, or FDI, has an average value of 2.457352 and a standard error of 3.935537, with an overall value of 19.03948 and a minimum value of 0.001202 as FDI. Gross capital formation, abbreviated as INVEST, has an average value of 22.05241 and a standard error of 3.551837, with a maximum value of 31.24881 and a minimum value of 14.30539.

Furthermore the analysis of descriptive statistics revealed that, GDP, AID, HCD, FDI and INVEST were all positively skewed meaning that, their mean are peaked to the right of the distribution while GOVEXP was the only variable that was negatively skewed, meaning that it mean is peaked to the left (negative skewness). The coefficient of the kurtosis of GDP, and GOVEXP were below 3.000, meaning that they are platykurtic relative to the normal,

4.3 Stationarity test (unit root)

Table: 2 unit root test

Variables	Intercept		Intercept and Trend	
	Level 1(0)	First Difference 1(1)	Level 1(0)	First Difference 1(1)
LNGDP	-3.287632 (0.0214)**	-4.492756 (0.0007)*	-3.237203 (0.0903)	-4.476139 (0.0043)*
LNAID	-3.250411 (0.0230)**	-7.844344 (0.0000)*	-4.658486 (0.0025)*	-7.752510 (0.0000)*
LNGOVEXP	-2.577131 (0.1047)	-6.379541 (0.0000)*	-2.822078 (0.1968)	-6.349715 (0.0000)*
LNHCD	-4.458733 (0.0020)*	-4.270585 (0.0070)*	-2.929059 (0.1739)	-1.919111 (0.5883)
LNFDI	-2.810761 (0.0644)	-12.42742 (0.0000)*	-2.958829 (0.1545)	-12.27784 (0.0000)*
LNINVEST	-3.109756 (0.0324)**	-7.959273 (0.0000)*	-3.028160 (0.1355)	-7.912926 (0.0000)*

Note * and ** indicate significance level at 1% and 5% respectively

Table: 2 findings show that, this paper employs the Augmented Dickey–Fuller (1979) to check the stationarity properties of the variance. The results showed that all the variables are not stationary at level under intercept with

indicating that their distribution has fewer and less extreme outliers than the normal distribution. However, the coefficient of the kurtosis for, AID, HCD, FDI and INVEST are above 3.000, meaning that they are leptokurtic relative to the normal, meaning that their distribution produces more and more extreme outliers than the mesokurtic distribution.

Generally, it can be observed from the jarque-bera and probability statistics for GDP GOVEXP and INVEST are normally distributed because their probability value is above 5% while AID, HCD and FDI are not normally distributed since the probability value is less than 5%. The descriptive statistics above was done with the raw data and not the transformed data

Finally Table 1 shows that Human capital development (HCD,) Foreign direct investment (FDI) and Gross capital formation (INVEST) are positively correlated to economic growth represented by GDP while Foreign aids (AID) and Government Expenditure (GOVEXP) present a negative correlation on GDP.

and without trend. Some of the variables are stationary at level, I(0) while some are at first difference, I(1).However, all the variables are stationary at 1% under intercept and at first difference while LNGOVEXP and FDI are not stationary at level using intercept hence they attend stationarity at first difference at the level of 1%. Gross



domestic product, foreign aid and investment obtained stationarity at 5% level using intercept. Since the variables do not have the same order of integration, the Autoregressive Distribution lag (ARDL) approach to cointegration will be used to estimate the model. This

approach can see long-run and short run responses from dependent variables to changes in independent variables (Gujarati2003). Pesaran and Shin (1999) are the ones who developed the ARDL co-integration method.

4.4 Lag length selection

TABLE 3: VAR Lag Order Selection Criteria

Endogenous variables: LNGDP LNAIDS LNGOVEXP LNHCD LNFD1 LNINVEST						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-24.42502	NA	2.29e-07	1.738572	2.005204	1.830613
1	117.2138	226.6220*	5.66e-10*	-4.297929*	-2.431511*	-3.653642*
2	151.9861	43.71375	7.35e-10	-4.227774	-0.761570	-3.031241
* indicates lag order selected by the criterion (each test at 5% level)						

From table :3 The maximum lag to be used is 1, determined by the Alkaike information criterion (AIC), Swatz Information criterion (SIC) and the Hanna-Quinn criterion.

4.5 Bound Test Result

Before estimating the long run coefficient, the bound test is performed. The result is reported in table 4. The F-statistics is 7.055620 and its value is higher than the critical

value at 1%, 5% and 10% significance level. It is larger than the lower bound of 3.06 at 1% and 2.39 at 5% and the upper bound of 4.15 at 1% and 3.38 at 5% level of significant hence the results suggest that the null hypothesis of no co-integration is dismissed, and that foreign aid and economic development have a long-run relationship.

Table 4: Summary of ARDL Bound test results

F-statistic 7.055620**				
Critical Value Pesaran and Pesaran (1997)	(Intercept with no trend)	K= 5	Lower bound 1(0)	Upper bound 1(1)
1% significant level			3.06	4.15
2.5% significant level			2.7	3.73
5% significant level			2.39	3.38
10% significant level			2.08	3

Note ** indicates a significant level of 5%

The bound test in table 4 confirms a long-run cointegration between the variables. Therefore we can go ahead to conduct a long run estimate on foreign aid and economic growth.

4.6 Estimated Long-Run Coefficients using the ARDL approach.

Table 5 : ARDL approach.

Dependent Variable: LNGDP
Method: ARDL
Dynamic regressors (1 lag, automatic): LNAIDS LNGOVEXP LNHCD LNFD12 LNINVEST



Selected Model: ARDL(1, 0, 0, 0, 0, 1)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LNGDP(-1)	0.847992	0.039712	21.35372	0.0000*
LNAIDS	-0.008949	0.015995	-0.559474	0.5794
LNGOVEXP	-0.123632	0.081955	-1.508529	0.1404
LNHCD	0.005740	0.019468	0.294832	0.7699
LNFDI	0.003903	0.002775	1.406592	0.1684
LNINVEST	0.250887	0.049223	5.096903	0.0000*
LNINVEST(-1)	-0.088799	0.058660	-1.513806	0.1391
C	1.059893	0.585679	1.809681	0.0789
R-squared	0.968886	Mean dependent var		7.153387
Adjusted R-squared	0.962663	S.D. dependent var		0.169667
S.E. of regression	0.032784	Akaike info criterion		-3.831488
Sum squared resid	0.037619	Schwarz criterion		-3.503822
Log likelihood	90.37698	Hannan-Quinn criter.		-3.710655
F-statistic	155.6988	Durbin-Watson stat		2.147837
Prob(F-statistic)	0.000000			

Source: Author Construct *Note * and ** indicate significance level at 1% and 5% respectively*

The long run ARDL results in table 5 shows that the R-square value is 0.968886, while the modified R-square value is 0.962663, implying that the independent variables account for 96 percent of the overall difference in Cameroon's economic development. This demonstrates that our model explains a significant portion of the variance in Cameroon's economic growth and also represents a reasonable measure of fit. The F-statistics (155.6988) shows the overall significance of the model at 1% level since its probability value (0.000000) is less than 0.05% critical value hence we reject the null hypothesis . There is no serial autocorrelation given that the Dublin Watson Statistic (2.147837) is within the acceptable bound.

Table 5 also shows that the model incorporates the lagged value of per capita GDP growth to capture persistence and feedback effects over time. At the 1% significance level, a 1% rise in GDP growth rate from the previous year results in an increase in GDP growth rate of approximately 85%.

Foreign aids (AID) and Government Expenditure (LNGOVEXP) showed a negative and insignificant long run effect on the GDP. This means that a 1% rise in foreign assistance and a 1% increase in government spending would cause real GDP per capita to fall by 0.8% and 12%, respectively. The study's conflicts with our apriori of being positive but consistent with the findings of Ndambiri, et al., (2012), Gong and Zou (2001), Boone (1996), Griffin and Enos (1970), Liew et al. (2012), Lensink and Morrissey (2000). The consequence of this finding is that Cameroon's foreign assistance has not been successfully handled to encourage investment and economic development. There are many reasons that explain the negative results of foreign assistance on Cameroon's economic development. To begin with, aid may not be used for the intended purpose and may contribute to corruption practices such as the use of foreign aid to fund political campaigns, resulting in the perpetuation of bad governments (bad policy) might be one of the core reason why it has a negative sign on Cameroon economic growth hence affirms with Addison and Tarp (2015) work who perked it as a results of the recipient's



countries mismanagement (bad) policy. Cameroon is ranked as one of the highest corrupt countries in Africa and also one of the highest receivers of assistance by transparency international report (2018) and the World Bank report (2018). Secondly, foreign aid will increase citizen consumption resulting in more leisure time for people and a reduction in labor supply which has a negative effect on overall growth (Boone, 1996; Gong and Zou, 2001). Third, rising international aid reduces long-term capital investment and labor supply, raises the exchange rate, and impacts the current account deficit. This would raise the risk of economic growth and make exports more costly, resulting in lower exports (Liew et al., 2012). As a result, hampered Cameroon's economic growth. Lastly, it is recognized that not all assistance has the same effect on economic development. The majority of studies focus on the relationship between total aid and development, but some types of aid, such as food aid, medicine, bed nets, and disaster and humanitarian relief efforts, are not specifically linked to growth. Since growth is not the primary goal, the effect on growth will be minimal.

We found that HCD and FDI have a positive long run insignificant relationship on Cameroon economic growth. This means that a 1% increase in HCD and FDI will lead to a corresponding increase on the GDP of Cameroon by 0.05 and 0.03% respectively. The results are consistent with theory and apriori expectation. Human capital carries a positive but insignificant sign meaning that, the growth in labour force is being used or absorbed by the economy even though not to a greater extent since the probability value is greater than 0.05% hence insignificant. FDI is also an essential medium for transferring technology, which aids economic development. It brings in foreign capital and technology across the country and cause a spillover impact. The study tie with that of Ndambiri et al work.'s (2012). Finally, Gross capital formation (INVEST) showed a long run positive significant effect on the GDP at a 1% level. This means that a 1% increase in Gross capital formation (INVEST) will lead to a corresponding increase on the GDP of Cameroon by 25% everything being equal. The result is consistent with theory and our apriori expectation and equally with the works of Ndambiri, et al., (2012).

4.7 Estimated Short-Run ARDL approach.

Table 6 Short-Run ARDL approach.

ARDL Error Correction Regression				
Dependent Variable: D(LNGDP)				
Selected Model: ARDL(1, 0, 0, 0, 0, 1)				
ECM Regression				
Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNINVEST)	0.250887	0.036573	6.859862	0.0000
CointEq(-1)*	-0.152008	0.019984	-7.606319	0.0000
R-squared	0.690865	Mean dependent var		0.012690
Adjusted R-squared	0.683325	S.D. dependent var		0.053827
S.E. of regression	0.030291	Akaike info criterion		-4.110557
Sum squared resid	0.037619	Schwarz criterion		-4.028641
Log likelihood	90.37698	Hannan-Quinn criter.		-4.080349
Durbin-Watson stat	2.147837			

Source: Author Construct Note * and ** indicate significance level at 1% and 5% respectively

Using the short run ARDL model and the ECM as shown in table 6, In the short run, only gross capital formation



(INVEST) had a significant impact on Cameroon's GDP growth. Finally, at a 1% level of significance, the speed of change represented by (ECM -1) has a negative sign, indicating that the model is stable in the long run and is non-explosive, meaning that if disequilibrium occurs, endogenous variables quickly adjust at the speed of the ECM coefficient of (0.15), as the model reaches

Table 7: Diagnostic test after ARDL

Test statistics	F-statistics	p-value	Interpretation
Heteroskedasticity Test: Breusch-Pagan-Godfrey	1.450005	0.2173**	No Heteroskedasticity
Jarque -bera test	2.362207	0.306940**	Normal distribution
Ramsey RESET stability	1.643862	0.2085**	Model correctly specified
Breusch-Godfrey Serial Correlation LM Test	0.119229	0.7320**	No serial correlation

Source: author ** indicate that the diagnostic test parameters are greater than 0.05 level of significant hence a good indicator

The results of the Breusch-Pagan-Godfrey correlation test, the Breusch-Pagan-Godfrey Heteroskedasticity test, the Jarque-bera normality test, and the Ramsey RESET test are shown in table 7. These tests show that the model supports the null hypothesis of no autocorrelation, homoscedasticity, and normal distribution; and that the relationship between the dependent and independent

equilibrium with the given set of determinants in the long run.

4.8 Diagnostic test

The diagnostic test is carried out to assess the model's robustness. The residual is subjected to diagnostic tests for serial autocorrelation, heteroscedasticity, and normality.

variables is correctly defined, with all P-values greater than 0.05 percent level of significance. The long-run stability of the parameters is verified using the CUSUM test, although the CUSUMQ data shows some structural break from 1989 to 1999. Figures 2 and 3 display the effects of the CUSUM and CUSUMQ tests, respectively, indicating that all of the parameters exhibit long-run stability at the 5% level of significance.

Figure 2: Graphical Representation of Cumulative sum of Recursive residual (CUSUM test)

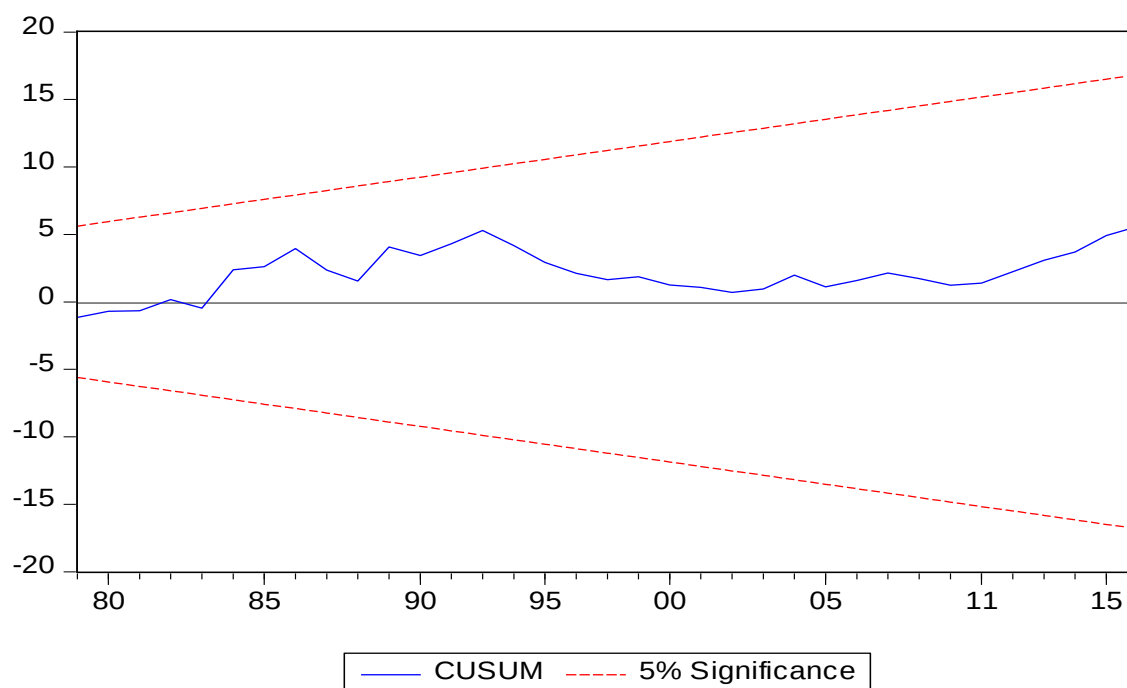
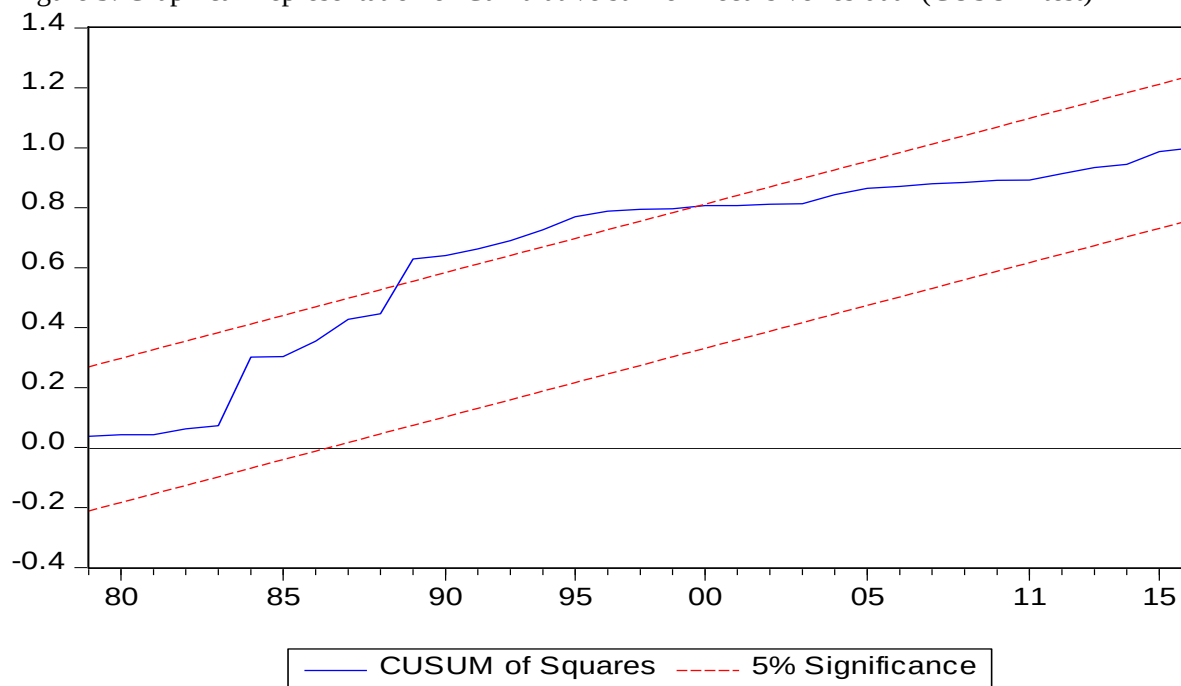


Figure 3: Graphical Representation of Cumulative sum of Recursive residual (CUSUM test)



Conclusion and policy implication

The study aimed at examining If the 21st century foreign aid in Cameroon is worse off or better off on its economic

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growth in the long and short using yearly time series data from 1970-2018. The paper is unique among previous studies in that it focuses on identifying some important macroeconomic determinants associated with foreign aid that are important to Cameroon's economy. We used unit root tests to verify the data's stationarity properties before estimating the time series model. Using selected variables to accompany foreign aid base on the extent of literature review and data availability such as Government final consumption expenditure, human capital development, foreign direct investment and gross capital formation (investment), on economic growth, the result the existence of a long run relationship between the variables. The error correction term is correctly signed hence backed up the assertion. The analysis found a moderate rate of convergence to long-run equilibrium. The findings also show that all variables play a role in explaining Cameroon's economic growth in the long and short run.

Foreign aid (AID) and government spending (LNGOVEXP) had a negative and insignificant long-run effect on GDP, according to the findings. This means that a 1% increase in foreign aid and government spending will result in a 0.08 percent and 12 percent drop in Cameroon's real GDP per capita, respectively. The results suggest in all scenarios that foreign aid has greatly worsened Cameroon economic growth in the 21st century. This means that aid intended to promote economic growth and development, as predicted by our apriori expectation, actually harms or slow Cameroon's economy. The negative effect may be due to the fact that foreign aid may not be used for the intended purpose and may contribute to corruption practices such as the use of foreign aid to fund political campaigns, resulting in the perpetuation of bad governance policy hence tie with the work of Addison and Tarp (2015). Domestic investment, on the other hand, has shown a generally positive trend, supporting the view that investment tends to be a good booster of Cameroon's economic development.

Finally, we discovered that HCD and FDI have an insignificant long-run relationship on Cameroon's economic development. This means that a 1% rise in HCD and FDI would result in a 0.05 percent and 0.03 percent increase in Cameroon's GDP, respectively. The findings support theory and our priori expectations. In the short run,

only gross capital formation (INVEST) had a significant impact on Cameroon's GDP growth.

Therefore with the above summary analysis, if foreign assistance in Cameroon isn't working, it needs to be rebuilt; if international actors can't help, they must at the very least avoid making things worse. In order to demonstrate success rather than disappointment, new strategies and incentives should be placed in place. Support must be exchanged for goods and services. The paper suggests that the government of Cameroon should support their citizen's capabilities by organizing creative programs so that they can become wealth and business builders and support themselves through their own endeavors. Comprehensive policy and sound economic management are more important to Cameroon than foreign aid. Aid is less likely to become a curse when institutions are stable and powerful. Before providing financial assistance, further assistance should be provided to improve governance because financial assistance will not achieve its intended purpose without a strong government. Furthermore, since investment, foreign direct investment and human capital development have positive effects on growth, foreign aid should be oriented toward capital formation and labor skills development through education and training rather than political stands.

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