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► **To cite this version:**

Stéphane Mbiankeu Nguea. The Impact of Infrastructure development on Foreign Direct Investment in Cameroon. 2020. halshs-02446497

HAL Id: halshs-02446497

<https://shs.hal.science/halshs-02446497>

Preprint submitted on 23 Jan 2020

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The Impact of Infrastructure development on Foreign Direct Investment in Cameroon

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Abstract

Better access to improved infrastructure services is one of the components of a favourable investment climate for foreign investors and an important engine for sustainable economic growth. The purpose of this study was to investigate the effects of communication, energy and transport infrastructures development on Foreign Direct Investment (FDI) in Cameroon. This study employs autoregressive distributed lag (ARDL) approach to cointegration and an error correction model based on ARDL approach using time series data for the period 1984-2014. The results revealed that communication infrastructure has a positive and significant impact on FDI in both the long run and the short run. Findings also revealed a negative impact of energy infrastructure in attracting FDI in the long run and in the short run while an insignificant impact of transport infrastructure on FDI is registered in both the long run and the short run. The results suggest that the improvement of business climate through better infrastructures play a major role in attracting FDI in Cameroon.

Keywords: Infrastructure, ARDL, FDI, Cameroon

JEL Classification: H41, R42, F21, E22

1. Introduction

1.1. Background

Foreign Direct Investment (FDI) is an important source of capital for investment in developing countries. Like many emerging economies, the level of economic development of Sub-Saharan African (SSA) countries requires continued foreign investment to stimulate the economy and improve the welfare. For SSA countries, the role of FDI has proven all the more essential as it can help to filling the gap between domestic savings and investments while mobilizing the necessary resources to achieve the Sustainable Development Goals (SDGs). For the Organization of Economic Cooperation and Development (OECD 2008), FDI is one of the main drivers of international economic system. When the appropriate host-country policies are in place, it can be a financial stability factor, support the economic development and the social welfare.

According to Nyaosi (2011), FDI provides new technologies and improves the efficiency of existing technologies and brings financial resources to host countries. Foreign Direct Investment also facilitates access to international markets and plays a major role in the development and strengthening the export capabilities of the host economies. FDI has the potential to lead to change in management and corporate governance, enhance domestic competences and transfer modern and “cleaner” technologies in the host country. The importance given to FDI in modernisation, employment, income growth and development process pushed several SSA countries to introduce strategies to attract and promote FDI. However, Sub-Saharan African countries are not performing well than other region in the world in FDI attractiveness process (UNCTAD 2018). FDI does not accrue mechanically, national policies such as development of human capital and infrastructure, macroeconomic and politic stability, financial development matter for attracting FDI in the SSA countries and for reaping the full gain of foreign investment for development.

The availability of infrastructures such as telecommunications, railways, airports, ports and roads reduce operational costs, tariffs and facilitate access to new markets in a specific country. The competitive position of a country is determined by its transportation costs, tariffs and access to a new market (Rehman et al. 2011). Poor infrastructure limits access to both local and international markets which ultimately impede FDI growth in SSA countries. Several studies focusing on the determinant of FDI concluded that infrastructures have a positive impact in captivating FDI.

1.2 Cameroon FDI inflows

FDI is considered like the main driver behind the economic globalization process and have been considered as the "the peak" of globalization process (Donciu 2013). Within a favourable framework, it is gainful for developing country like Cameroon.

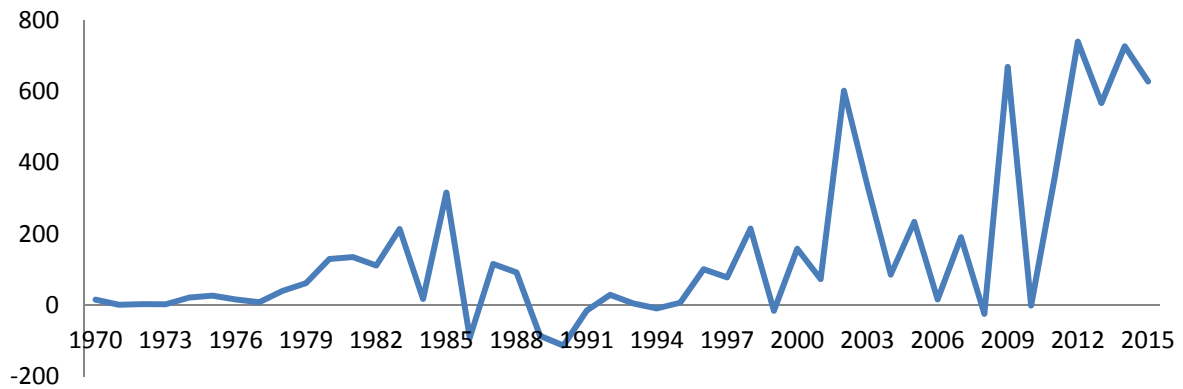


Figure 1: FDI trend in Cameroon from 1970 to 2015 (Current US\$ in Millions)

Source: Constructed by author from UNCTAD (2018)

Cameroon FDI net inflows have been low and stable from 1970 to 1977 when it shot up and this until half of the years 1980 with a spectacular rise for the Eighties, 1981, 1983 and 1985 where are recorded \$135.391 million, \$213.821 million and \$316.229 million respectively due to fact that Cameroon's economy experience a structural change with the discovery of crude oil and the increase in agricultural output. Between 1985 and 1995 FDI inflows went down sharply with a massive disinvestment amounting to about of \$29.2 million, \$5.12 million and \$7.292 million respectively in 1992, 1993 and 1995 owing mainly to the severe economic crisis, which combined with the application of a number of measures taken within the context of Structural Adjustment Programmes (SAPs) which wreck the national economy between 1986 and 1994.

After the economic crisis, there was a significant increase in the FDI inflows with the implementation of macro economics policies, the construction of the Chad-Cameroon oil pipeline and the integration into the world economy. Between 1995 and 2006 FDI inflows reached \$601.746 million in 2002 and drop to \$191.017 million in 2007. It later declined drastically between 2007 and 2008 due to global financial crisis. Foreign direct investment net inflows steadily rose from 2008 to 2009 and declined sharply in 2010. Thereafter, it rose sharply from the year 2011 to 2015 with a record level about \$739.177 million in 2012 before slightly decreasing to \$627.441 million in 2015 (see Figure 1).

FDI inflows to Cameroon, traditionally low compared to the potential of its economy. Cameroon has the potential to become one of the most prosperous and best countries to receive FDI in Africa. However the Cameroon's business climate such as inadequate infrastructure, low skilled labor, corruption, high political risk and others discourages FDI in Cameroon. In order to attract more FDI, significant programs are being implemented by Cameroonian authorities among which infrastructures development.

Since the year 2001, Cameroonian government has made significant progress in many aspects of infrastructure. Cameroonian authorities have managed to developed roads, rails, power, water and sanitation supply and Information and Communication Technologies (ICT) networks. During this decade, government spent around \$930 million per year on infrastructure, equivalent to 5.6 percent of its GDP (Dominguez-Torres and Foster 2011). After having got to the finishing line of the Heavily-Indebted Poor Country Initiative (HIPCI) in 2006, Cameroon outlines plan to radically improve its energy transportation,

telecommunication and construction facilities through the Growth and Employment Strategy Paper (GESP) to reach to development by 2035 (Republic of Cameroon 2009). As evidenced from Energy, Physical and ICT infrastructures, the extension of the railways network from mbalam to Kribi by 450km to ensure the easy transportation of iron from Mbalam iron ore to kribi sea port, the Memve'ele and the Lom Pangar hydroelectric dams with capacity of 211 MegaWatts (MW) and 30MW of electricity respectively, Mekin Hydro-power with capacity of 15MW , the Nigeria Cameroon Submarine Cable system (NCSCS) installed in kribi under supervision of Cameroon Telecommunication (CAMTEL), the Africa Coast to Europe (ACE) and South Atlantic Interlink (SAIL) submarine Cable which are ready for service. The GESP does not produce the expected result. The three year Emergency plan (2015-2017) decided by the head of state was the GESP adjustment plan. However, Cameroonian economy is still constrained by infrastructure inadequacy and inefficiencies. These include poor roads and railways quality, expensive and unreliable power supply, uncompetitive mobile sector, weak expansion of the mobile and fixed-line markets and shortages of water supply and sanitation. This therefore raises the following research question: What are the impacts of infrastructure development on the scanty increase in FDI recorded in Cameroon?

The studies of Wekesa et al. (2017), Seetanah (2009), Asiedu (2002), Rehman et al. (2011) and Jaiblai and Shenai (2019) have found significant contribution of infrastructure along with other determinants to attract FDI inflows in SSA countries. Despite these considerations, specific research on the impact of infrastructure on FDI in the Cameroonian context does not exist. Further, empirical studies on the impact of infrastructure on FDI have relied on data from different regions and horizons. Pooling countries in panel data studies is not suitable because policies of infrastructure development and their impacts on the FDI vary across countries. Due to the different operating environments, the results and policy implications are region based and hence the need for country-specific solutions. The results of these studies cannot be generalized to inform policy in Cameroon.

The aim of this paper is to investigate the impact of infrastructure development on Foreign Direct Investment in Cameroon, taking into consideration the communication, transport and energy infrastructures.

1.3. Objectives of the Study

The main objective of this study is to examine the impacts of infrastructure development on FDI in Cameroon over the period 1984-2014. This study specifically seeks to:

1. Determine the impact of transport infrastructure development on FDI
2. Investigate the impact of energy infrastructure development on FDI
3. Examine the impact of communication infrastructure development on FDI

1.4. Structure of This Paper

This paper is organized in various sections: Section 1 covered the introduction and background of the country with respect to FDI trend and infrastructures development plan and set out the objectives of the current study. In Section 2, the existing empirical literature on the impact of infrastructure on FDI is reviewed. Section 3 describes econometric methodology and data. The results and their interpretations are presented in Section 4, and Section 5 will be reserved for the conclusion and the recommendations.

2. Literature Review

Empirical studies on the relationship between infrastructure and FDI have been increasing over the recent years. In these studies infrastructure is differentiated between hard and soft infrastructure (Bakar et al., 2012; and Seetanah, 2009). Hard means physical infrastructure (such as roads, telephone connections, airports, roads, fast distribution networks, electricity transmissions, and railroads) and Soft infrastructure implies market-oriented institutions, governance structures and such.

Wheeler and Mody (1992), researching the investment location decisions of US firms, examined the impact of infrastructure quality on investment in 42 developing countries between the year 1982 and 1988. They found that quality of energy, communication, and transport infrastructures have a highly positive and significant impact on the volume of investment in the countries under study. Fung et al. (2005) examined which type of infrastructure (hard or soft) draws the attention of foreign investors and attracts FDI to China. The empirical results shows that both soft and hard infrastructure have a positive and significant effect on FDI inflows although soft infrastructures outpace hard infrastructure in attracting FDI. They also found that Soft infrastructure was found to be the main factor for attracting FDI to China. Seetanah (2009) examined the relationship between FDI and physical infrastructure in attracting FDI to the manufacturing and services sector of Mauritius from the period 1981–2005. The findings showed that both non-transport and transportation infrastructure are important determinants of FDI inflow to the sectors of the Mauritius economy. However, manufacturing sector investors pay more attention to physical infrastructure while services sector investors paid less attention to it.

Chakrabarti et al. (2012) also examined the relationship between infrastructure and FDI in India between the year 2002 and 2007. They found that there is a positive relationship between physical infrastructure and FDI inflows. However, this relationship depends on the level of infrastructure. Behname (2012) used cross-sectional data of Southern Asia countries between 1980 and 2009 to investigate the link between infrastructure and FDI flows and found that urban infrastructure impacts FDI positively. Hakro and Omezzine (2011) found that governance infrastructure has a positive and significant impact on FDI inflows in Mena region countries. Rehman et al. (2011) investigated the impact of infrastructure on FDI in Pakistan from the period 1975–2008 and found that infrastructure and market size were positively related while exchange rate is related negatively to FDI inflows in the long-run and in the short-run. Bakar et al. (2012) found that the both hard and soft infrastructures were positively correlated to FDI inflows in Malaysia.

Asiedu (2002) examined the determinants of FDI in 70 developing countries, 35 of which are from the Sub-Saharan Africa region, over the period 1988-1997 using OLS estimation method. The results revealed that infrastructural development, high return on investment and economic openness were key to attracting FDI. Essia and Onyema (2012) also found that improved infrastructure (energy supply, improvements in infrastructures for transportation and communication, and maintaining flexible institutional frameworks) is a necessary condition for better FDI inflows in Nigeria. Babatunde (2011) used panel data on Sub-Saharan African countries over the period 1980 and 2003 and found that trade openness, infrastructure and GDP per capita were important for FDI inflows. Wekesa et al. (2017) determined the effects of transport, energy, communication and water and waste

infrastructure development on FDI inflows in Kenya. Using annual time series data and multiple regression analysis, they found that improved transport infrastructure, communication infrastructure, water and waste infrastructure are important determinants of FDI inflows into Kenya. Jaiblai and Shenai (2019) explored the determinants of FDI in ten Sub-Saharan economies. Using a set of cross-sectional data over the period 1990–2017, they found that the higher FDI inflows attracted by countries with better infrastructure.

To summarize, review of the literature on relationship between infrastructure and FDI inflows found a positive and significant role of infrastructure in inviting FDI inflows, nevertheless studies neglected developing countries individual cases particularly middle income developing country like Cameroon. Therefore, this study seeks to fill in this gap and hence adds in literature on FDI inflows.

3. Data and Methodology

This study aims to investigate the impact of infrastructure development on FDI in Cameroon. Due to data constraints, the study used annual secondary data spanning from 1984 to 2014. Data are obtained from the World Bank’s World Development Indicators (WDI) and the United Conference on Trade and development (UNCTAD).

The dependent variable is the ratio of FDI net inflows over Gross Domestic Product (FDIGDP). The independent variable is infrastructure. In this study three indicators of infrastructure are used namely Communication Infrastructure (CI) which is proxied by fixed telephone subscription per 100 people; Energy Infrastructure (EI) which is measured by Electric power consumption per kWh and Transport Infrastructure (TI) which is captured by Rail lines. The choice of these infrastructure indicators is based on the fact that they are among the major infrastructures that drive production in the key sectors of the Cameroonian economy.

From literature, it has been proven that investment decisions are hinged on availability and quality of infrastructures. Thus, better infrastructural facilities reduce the transaction cost and hence improve the investment climate. Communication infrastructure is a measure of availability and cost of telecommunication, which is important for multinationals to coordinate cross-border activity. Energy Infrastructure is important for efficiency in manufacturing sector. Transport infrastructure is crucial for access to the new market and reduces operational cost. It is expected that Communication, Transport and Energy infrastructures are positively related to the FDIGDP. The sources of data collected for dependent and independent variables are summarized in Table 1 below.

Table 1. Variables in the Models and Data Sources

Variables	Meaning	Data Source
FDIGDP	Foreign direct investment, net inflows (% of GDP)	UNCTAD (2017)
CI	Fixed telephone subscriptions (per 100 people)	WDI (2017)
EI ^L	Electric power consumption (kWh per capita)	WDI (2017)
TI ^L	Rail lines (total route-km)	WDI (2017)

^L Variable in natural logarithms.

The aim of this study is to investigate the impact of transport, energy, communication infrastructure on FDI inflows in Cameroon. The hypothesis is that with better

infrastructures, a middle-income country like Cameroon is more attractive to Multinational Enterprises (MNEs).

Therefore, the model for the research is specified as below:

$$FDIGDP_t = \alpha_0 + \alpha_1 TI_t + \alpha_2 EI_t + \alpha_3 CI_t + \varepsilon_t \quad (1)$$

Where *FDIGDP* is the foreign direct investment, net inflows (% of GDP); *TI* is the Transport Infrastructure; *EI* is the Energy Infrastructure; *CI* is Communication infrastructure. α_0 is the Intercept; $\alpha_1, \dots, \alpha_3$ are the coefficients; ε is the error term and t the time.

This study employs the Autoregressive Distributed Lags (ARDL) developed by Pesaran and al. (2001). The choice of this method is justified by the advantages following: first, the ARDL is more flexible and presents the advantage of being applicable when all variables are I (0), I (1), or are mutually integrated (Pesaran et al, 2001). Secondly, the ARDL is robust in the case of small sample (Solarin and Shahbaz 2013). Thirdly by applying the ARDL method we can't obtain biases estimators in the long-term model (Harris and Sollis 2003). Considering the above benefits of ARDL approach to cointegration, the following model is specified as below:

$$\begin{aligned} \Delta FDIGDP_t = & \alpha_0 + \sum_{i=1}^n \alpha_1 \Delta FDIGDP_{t-i} + \sum_{i=1}^n \alpha_2 \Delta TI_{t-i} + \sum_{i=1}^n \alpha_3 \Delta EI_{t-i} + \sum_{i=1}^n \alpha_4 \Delta CI_{t-i} + \vartheta_1 FDIGDP_{t-1} + \vartheta_2 TI_{t-1} \\ & + \vartheta_3 EI_{t-1} + \vartheta_4 CI_{t-1} + \mu_t \end{aligned} \quad (2)$$

Where Δ is the first difference operator; n is the optimal lag length; $\alpha_1, \alpha_2, \alpha_3$ and α_4 represents the short run dynamics and $\vartheta_1, \vartheta_2, \vartheta_3$ and ϑ_4 represents long run elasticities.

Before applying the ARDL approach of Pesaran and al. (2001), it is imperative to carry out the stationarity test in order to be sure that no variable is integrated into a higher order than 1. In this study, the unit root test of Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) test statistic are used.

In order to determine the existence of long run relationship as given in equation (1), bound test of equation is carried out (2) using value of the computed F-statistic. The null hypothesis assumes no cointegration among variables. The rule of ARDL Bounds test of cointegration states that the null hypothesis should be rejected if the value of the F-statistic is greater than the upper bounds value and accepted if the F-statistic is less than the lower bounds. The ARDL cointegration test will be said to be inconclusive if the F-statistic falls between the lower and upper bound.

Since the study utilizes time series data with 31 years of observation, the model lag length was determined using Schwartz-Bayesian Information Criterion (SBIC). An error correction version of equation 2 is given as below:

$$\Delta FDIGDP_t = \alpha_0 + \sum_{i=1}^n \alpha_1 \Delta FDIGDP_{t-i} + \sum_{i=1}^n \alpha_2 \Delta TI_{t-i} + \sum_{i=1}^n \alpha_3 \Delta EI_{t-i} + \sum_{i=1}^n \alpha_4 \Delta CI_{t-i} + \gamma_1 ECM_{t-1} + \mu_t \quad (3)$$

Where γ is the speed of adjustment parameter and *ECM* represent error correction term derived from long run relationship as given in equation (2).

4. Empirical Results and Discussion

4.1 Unit Root Test

Before applying the ARDL approach to cointegration, the Augmented Dickey-Fuller (ADF) test and Phillips-Perron (PP) test statistic were done at levels and differences to determine the order of integration. Results of unit roots under Augmented Dickey-Fuller (ADF) and Phillips-Perron tests are summarized in Table 2. As per results, transport infrastructure, communication infrastructure and energy infrastructure were found to be integrated of first order, I (1), while FDI is found to be integrated of order zero, I (0). This meant that transport infrastructure, communication infrastructure and energy infrastructure are stationary at first difference. The FDI is stationary at level, meaning that the null hypothesis for the presence of unit roots is rejected at 1 per cent for this variable. Thus, the requirements to determine the cointegration test between FDI and independent variables are satisfied.

Table 2. Unit Root Test

Variables	Augmented Dickey Fuller			Phillip Perron		
	Level	First Difference	Order of Integration	Level	First Difference	Order of Integration
FDIGDP	-4.895*	-10.942*	I(0)	-4.958*	-14.689*	I(0)
CI	-2.131	-6.243*	I(1)	4.605	-6.352*	I(1)
EI	-0.801	-5.181*	I(1)	-1.053	-5.288*	I(1)
TI	-1.294	-5.836*	I(1)	-1.241	-5.872*	I(1)

* imply statistical significance at 1 percent

4.2 Bounds Test Approach to Cointegration

To determine the existence of cointegration between the dependent and independent variables, this study applied the Bound testing approach proposed by [Pesaran and al. \(2001\)](#). The results show that Computed value of F-statistics (8.5) is greater than the upper bound critical value (Table 3). Therefore, the H0 assumption of absence of cointegration is rejected which implies that there is a long-run relationship among the variables.

Table 3. Result of ARDL Bounds Test Approach to Cointegration

Critical Value Bounds	Lower bound value	Upper bound value	Computed F-statistics
1%	4.29	5.61	8.5
2.5%	3.69	4.89	
5%	3.23	4.35	
10%	2.72	3.77	

Source: Authors' computation

4.3 Impact Analysis

The long-run ARDL estimated were selected based on the Schwarz Bayesian Information Criterion (SBC). The optimal lag-length selected for model is ARDL (1, 0, 0, 0). The long-run and short-run coefficients are presented in tables 4 and 5.

Table 4. Estimated Long-run coefficients

Variable	Coefficient	Std Error	t-statistic	Prob
CI	0.696**	0.326	2.13	0.043
EI	-3.567*	1.847	-1.93	0.065
TI	-0.212	5.375	-0.04	0.969
Constant	23.093	39.624	0.58	0.565

Notes: (1) *** $p < 0.01$, ** $p < 0.05$ and * $p < 0.1$.

(2) R-squared = 0.5403, adjusted R-squared = 0.3931, $F(4, 25) = 5.72$, $p = 0.006$.

Table 5. Error Correction Model

Variable	Coefficient	Std Error	t-statistic	Prob
ECM(-1)	-0.5715	0.192	-5.80	0.000
CI	0.778**	0.377	2.06	0.050
EI	-3.989*	2.148	-1.86	0.075
TI	-0.237	6.012	-0.04	0.969

Note: *** $p < 0.01$, ** $p < 0.05$ and * $p < 0.1$.

The regression results (see Table 4) show that the F-statistic (5.72) is statistically significant at 1 percent level, meaning that all the independent variables as a group explain 39 per cent of the total variations in FDI. The model has a trend at 23.093, meaning that in the absence of all the model variables, FDI increases with a constant factor, equivalent to the trend (see Table 4).

From the results, The Communication Transport (CI) (see Table 4 and 5) is statistically significant at 5 per cent level of significance in the long run and as well as in short run and its coefficients (0.69 and 0.77) depict that five percent increase in CI increases FDI by 0.696% and 0.77% respectively in Cameroon. This result means that Communication Infrastructure is important in attracting FDI. These findings are in line with research by [Wekesa et al. \(2017\)](#) and [Jaiblai and Shenai \(2019\)](#).

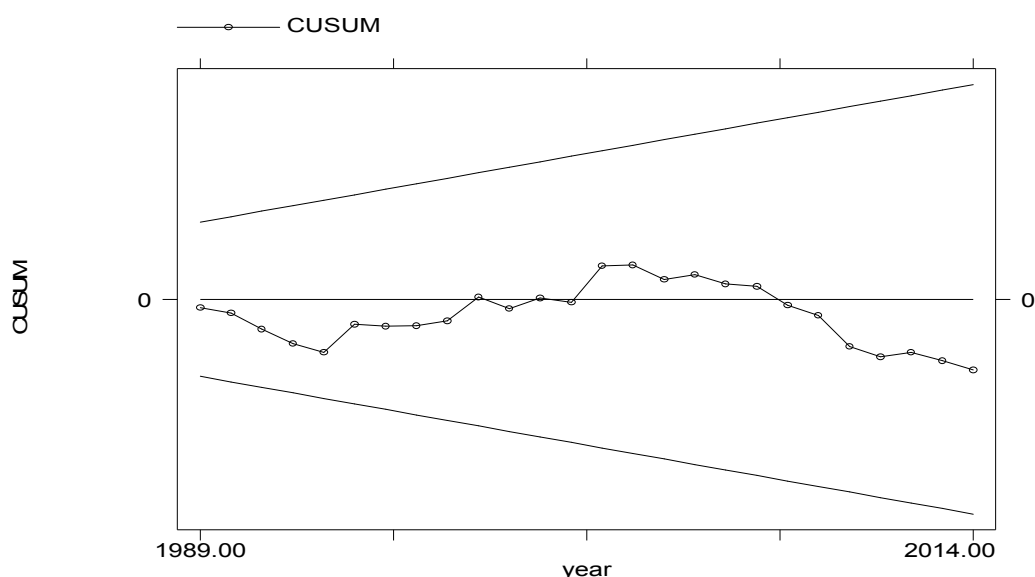
The coefficient of energy infrastructure is negative and significantly correlated to FDI in the long run and in the short run. This result suggests that energy infrastructure discourages FDI in Cameroon. This may due to the fact that unreliable power supply, decrepit metering systems, burgeoning illegal connections, and outmoded billing software have deteriorated the situation. Investment climate surveys noted that firms in Cameroon encountered around 128 outages in 2009, almost as twice the average for Africa's middle-income countries, enduring blackouts of four hours each time ([Dominguez-Torres and Foster 2011](#)).

The transport infrastructure (TI) is not statistically significant in the both long run and short run, meaning that transport infrastructure has no effect on FDI in Cameroon. This means that rail line does not play a major role in attracting FDI to Cameroon. This result is plausible in that the railways line is deteriorated with a narrow gauge of 1,000 mm.

Table 6. Summary of Diagnostic Tests Results

Diagnostic Tests	Description	t-statistic	p-value
Breush-Godfrey LM Test	Test for Serial Correlation	0.538	0.4632
Ramsey Reset Test	Test for omitted variables	0.46	0.7122
Durbin-Watson Test	Test for serial correlation (if lies close to 0 and 4, then presence of collinearity)	1.764	
Link Test	Test for model fit	-0.35	0.727
White Test	Test for homoscedasticity	8.01	0.8888

The diagnostic tests that were conducted include the Durbin Watson statistic, test for omitted variables, model specification, serial correlation, model fit and test for homoscedasticity (see Table 6). The Durbin Watson statistic of 1.76 lies in the indecision quadrant (is closer to 2 and far from the extreme values, 0 and 4); hence, the model is considered as having no serial correlation problem. Applying White's test, the error term was found to be homoscedastic with a calculated chi-square value of 8.01 with probability 0.888, implying that the null hypothesis of constant variance could not be rejected at 5 per cent level of significance, as the probability was greater than 0.05 (see Table 6). Model specification tests were done using the Ramsey's test (RESET) and the null hypothesis is that the model had no omitted variables. The test results indicated that the model had no omitted variables [$F(0, 46) = 0.71, p > 0.05$], while a test of model specification showed that the model fitted well ($p = 0.727$) (see Table 6). Hence, the null hypothesis that the model had no omitted variables and fitted well could not be rejected at 5 per cent level of significance. The cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares residuals (CUSUMSQ) show that parameter constancy in the model is maintained for the entire study period (see Figures 2 and 3).

**Figure 2.** CUSUM Test

Source: Constructed from CUSUM test results by the authors'.

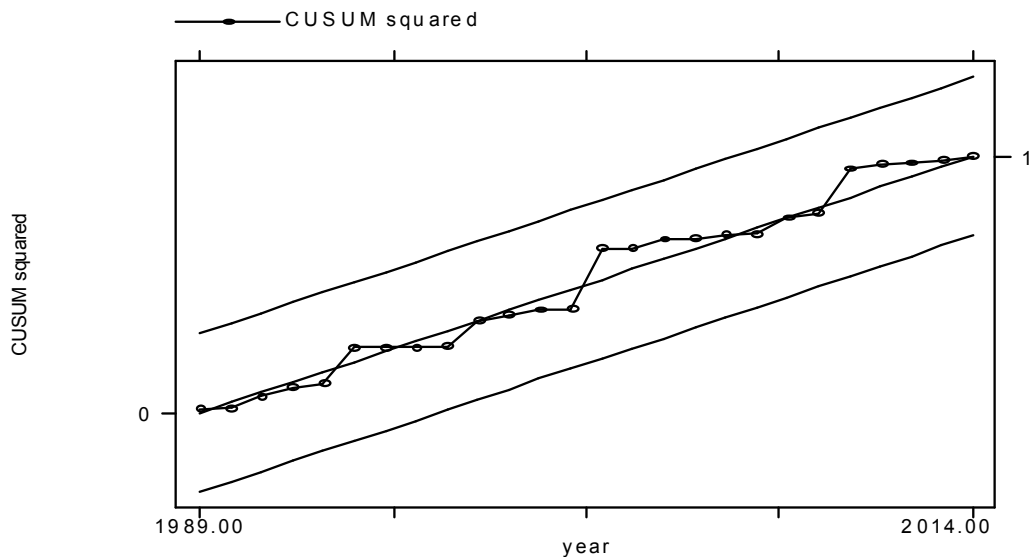


Figure 3. CUSUM Squared Test

Source: Constructed from CUSUM test results by the authors'.

5. Conclusion and policy implications

The purpose of this study was to investigate empirically the impact of infrastructure development on Foreign Direct Investment in Cameroon. The study used time series data from 1984 to 2014 and applied autoregressive distributive lag (ARDL) approach to cointegration. Both stationarity test and co-integration test in the long run for the variables were verified with Augmented Dickey-Fuller (ADF), Phillips-Perron (PP) test statistic and Pesaran and al. (2001) methods respectively.

The results from this study revealed that communication infrastructure has a positive and significant impact on FDI in both the long run and the short run in Cameroon. Afterwards, energy infrastructure has a negative and significant impact in the long run and the short run. At last, transport infrastructure has a negative but insignificant impact on FDI in both the long run and the short run.

The findings imply that the impact of infrastructures on FDI is sensitive to the infrastructure measure used. In Cameroon, infrastructure plays an important role in attracting FDI inflows as evidenced by communication infrastructure of which the impact on FDI is positive and significant in the long run and in the short run.

The results imply that the government should endeavour to increase more kilometres of rail line and improve the railways network in order to attract FDI inflows.

Government policy makers need to speed up the development of its hydropower sites, which would significantly improve the domestic power situation. This will improve energy power structure and thus attracting FDI inflows.

Cameroonian government should improve the quality of ICT goods and services, increase fixed telephone subscriptions as they play a major role in attracting foreign investments.

References

- Asiedu, E. (2002) "On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?", *World Development*, 30(1): 107–19.
- Babatunde, A. (2011) "Trade Openness, Infrastructure, FDI and Growth in Sub-Saharan African Countries", *Journal of Management Policy and Practice* 12: 27–36.
- Bakar, N., Siti, H, C. M and Mukaramah, H. (2012) "The Impact of Infrastructure on Foreign Direct Investment: The Case of Malaysia", *Procedia Social and Behavioral Sciences* 65: 205–11.
- Behname, M. (2012) "Foreign Direct Investment and Urban Infrastructure: An Evidence from Southern Asia", *Advances in Management & Applied Economics*, vol.2, no.4, 2012, 253-259.
- Chakrabarti, R., Subramanian, K., Sessa, M and Sudershan, K. (2012) "Infrastructure and FDI: Evidence from District-Level Data in India" Available online: https://www.isb.edu/faculty/KrishnamurthySubramanian/Images/FDI_infra_20Mar2012_ReStud.pdf
- Donciu, E. C. (2013) "Determinants of Foreign Direct Investment Development," *CES Working Papers, Centre for European Studies, Alexandru Ioan Cuza University*, vol. 5(4), pages 465-473, December.
- Essia, U and Onyema, J. (2012) "Determinants of Foreign Direct Investment in Nigeria", *Journal of Money, Investment and Banking*, ISSN 1450-288X Issue 25 September, 2012.
- Fung, K. C., Garcia-Herrero, A., Hitomi, I and Siu, A. (2005) "Hard or Soft? Institutional Reforms and Infrastructure spending as Determinants of foreign direct investment in China", *The Japanese Economic Review* 56: 408–16.
- Hakro., Nawaz, A and Omezzine, A. (2011) "FDI Flows and Governance in MENA Region Countries", *Middle Eastern Finance and Economics* 12: 143–56.
- Harris, R and Sollis, R. (2003) "Applied Time Series Modelling and Forecasting" *Wiley, West Sussex*
- Jaiblai, P and Shenai, V. (2019). "The Determinants of FDI in Sub-Saharan Economies: A Study of Data from 1990–2017", *Int. J. Financial Stud.* 2019, 7, 43.
- Nyaosi, E. N. (2011) "The Effect of Infrastructure on Foreign Direct Investment in Kenya", KIPPRA Discussion Paper, No. 127. Nairobi, Kenya: *Kenya Institute of Public Policy and Research (KIPPRA)*.
- OECD. (2008) "Benchmark Definition of Foreign Direct Investment: Fourth Edition 2008" Available at <http://www.sourceocde.org/finance/9789264045750>
- Pesaran, H. M., Shin, Y., & Smith, R. J. (2001) "Bounds Testing Approaches to the Analysis of Long-Run Relationships", *Journal of Applied Econometrics*, 16, 289-326.
- Rehman, Abdul, Ilyas Muhammad, Alam Mobeen Hassan and Akram Muhammad. (2011) "The Impact of Infrastructure on Foreign Direct Investment: The Case of Pakistan", *International Journal of Business and Management*, 6(5): 268–76.
- Republic of Cameroon. (2009) "Growth and Employment Strategy Paper", November 2009.
- Seetanah, B. (2009) "A Sector-Wise Panel Data Study on the Link between Transport Infrastructure and FDI in Mauritius", Paper presented at 9th Global Conference on Business & Economics, Cambridge, UK, October 17; ISBN 978-0-9742114-2-7.
- Solarin, S, A and Shahbaz, M. (2013) "Trivariate causality between economic growth, urbanization and electricity consumption in Angola: Cointegration and causality analysis", *Energy Policy*, 60, 876–884. doi:10.1016/j.enpol.2013.05.058.
- UNCTAD. (2018) "World investment Report 2018", The United Nations Conference on Trade and Development, Available online: https://unctad.org/en/PublicationsLibrary/wir2018_en.pdf (accessed on 10 January 2019).
- Wekesa, C. T., Wawire, N. H and Kosimbei, G. (2017) "Effects of Infrastructure Development on Foreign Direct Investment in Kenya", *Journal of Infrastructure Development* 8(2) 93–110.
- Wheeler, D and Mody, A. (1992) "International Investment Location Decisions: The Case of U.S. Firms", *Journal of International Economics*, 33(1–2): 57–76.