

Corruption, Foreign Direct Investment and Growth in Ghana: An Empirical Analysis

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Abstract

The aim of the study therefore, was to examine the effects of corruption in the economic development of Ghana. The study investigated the effects of corruption on foreign direct investment (FDI) inflow in Ghana by using annual time series data for the period from 2004 to 2014, through the application of (ADF) unit root, Johansen's co-integration test and Granger causality test. The results of the analysis affirmed the existence of autocorrelation and unit root with Granger causality showing that, FDI inflow is bi-directional with corruption. The study recommended strengthening and strictly enforcing anti-corruption laws and policies to help minimize or prevent the incidence of corruption in Ghana. Moreover, there is the need for more strategic and concerted efforts by both public and private opinion leaders in fighting corruption as a social and economic problem that serves as impediment to growth.

Keywords: Foreign direct investment (FDI), corruption, economic growth, Ghana.

1. INTRODUCTION

Foreign Direct Investment (FDI) is a parameter for economic growth and development. It has importance in an increasingly globalized economy, for both developing and developed countries (Delgado et al., 2014; Julio et al., 2013). Therefore developing country hopes to attract foreign direct investment (FDI) as a source of long-term capital which can infuse new technologies, managerial know-how and marketing capabilities into its economy. This will in turn augment economic activities of the country's drive to economic growth by creating employments, increasing managerial skills, diffusing technologies and fostering innovations (Gorodnichenko et al, 2014). FDI inflows are affected by economic resources and factors such as market size, availability of natural resources, opening up of the economy and growth rate. Other issues such as business facilitation and workable institutional framework increase inflow of FDI. Similarly, the level of perception of corruption in an economy could also be an important determinant in attracting FDI. Corrupt practices are influenced by factors such as excessive bureaucratic system, high use of discretion in the formulation and implementation of public policies, inefficiency and slowness of the legal institutions, low wages in the civil service and lower degree of economic liberalization. These inevitable affect various aspects of the economy, vis a vis FDI inflow and economic growth. This situation has aroused the attention of international organizations such as the World Bank, Transparency International, the International Monetary Fund and the Organization for Economic Cooperation and Development.

One of the major contributions to Ghana's economic growth is the value of foreign direct investment inflow from MNEs. Currently, corruption seems to be the biggest problem facing Ghana's economic growth and development efforts. Corruption is perceived at all levels of governance and within both public and private sector organizations. Examples of corrupt practices in Ghana include bribery, embezzlement, fraud, nepotism, extortion, cronyism, etc. In Ghana, corrupt practices such as fraud and embezzlement of public funds cannot be perpetuated by just an official of the state without the involvement of a second party. Corruption in the form of bribery, extortion and influence peddling also involve two parties – the giver and the taker. The adverse socio-economic impact of this canker has attracted the attention of the Honourable Speaker of Parliament, Hon. Edward Doe Adjaho. His critic of the situation pointed to the excessive monetization of the country's politics being a major root cause of corruption. Also, His Excellency President Mahama in His state of the Nation Address to parliament dated February 26, 2015 remarked that Ghana is bleeding from various acts of mismanagement and corruption which has affected the growth of the economy. Corruption is a universal problem as far as mankind is concerned. However, how it affects economic growth has always been a subject of academic discourse. In recent times, the incidence of corruption is considered serious in both social and economic terms. This is what we term the duality concept of corruption. It is a social menace because it creates social disorder and instability in the form of social unrest, poor provision of social services, etc. Economically, corruption poses a threat due to the high costs of business operation to both private and public sectors and

business investment in the long run.

According to Macrae (1982), corruption is an arrangement that involves a private exchange between two parties (the demander and the supplier), which (1) has an influence on the allocation of resources either immediately or in the future, and (2) involves the use or abuse of public or collective responsibility for private ends. Corruption is also defined as the misuse of public power for private benefits. World Bank (2014) defined corruption as the misuse of public office for private gain. According to transparency International (2014), corruption is omnipresent; in every country in every industry there exist examples of corruption. No country has a perfect score on the Corruption Perception Index (CPI). In contributing to existing literature on the definition of corruption, Podebnik et al (2008), defined corruption as the abuse of public power for private and individual selfish interest or benefit and indicated that corruption affects all aspects of social and economic life. We would like to define corruption as the abuse or misuse of public office to satisfy an individual's selfish interests. Corruption is also an undue and unfair gains made by an individual or group of persons as a result of public transaction to enrich themselves to the detriment of the majority of the people in a country. *The aim of this paper therefore, is to investigate the relationship between FDI inflow and corruption and its effect on the economic growth of Ghana.*

1.1 Incidence of Corruption in Ghana

The incidence and perception of corruption in Ghana is particularly rampant in the seat of government. Institutions such as the security agencies, National Communications Authority, Civil Aviation Authority, electricity production companies, to mention a few, have been accused of corrupt practices in various forms. Similarly, government contracts and procurement, black marketing, illegal trade of goods and services, vehicle registration, deliberately-weakened institutions or deliberately-created gaps in the legal framework to both carry out unchecked expenditures and engaged in flagrant flouting of the law, smuggling and drug trafficking have all been subjects of corruption in Ghana. These have resulted in waste of resources within the public sector which has spawned under development in every part of the nation. This negative situation has also contributed to low living standard and its attendant hardships. More importantly, the weaknesses of the institutions and associated corruption have weakened confidence in the country's economy and democratic systems which has negative impact on economic activities. From investment perspective, no rational foreign investors would prefer to invest in a country with a high level of corruption which leads to high transaction cost, bureaucratic barriers, and possibility of embezzlement of the invested capital or funds. Ghana was ranked the world's 64th least corrupt country, out of 177 countries, and the 5th least corrupt of Africa's 53 countries in the 2012 by Transparency International Corruption Perception Index (28). Widespread corruption has made it very easy for foreign nationals to bribe their way through corrupt public officials who place personal interests over national interests to perpetrate illegal business activities. In the year 2014, Ghana scored 48 points to place 61 out of 175 countries in the Corruption Perceptions Index (CPI), released by the Transparency International. Although Ghana looks good when comparing with other African countries, the same cannot be said about the impact of corruption on socio-economic development of the country.

1.2 Effects of Corruption on SMEs in Ghana

The incidence of corruption in Ghana is not only a public sector arrangement. Neither does the effect of corruption affect only the macroeconomic fundamentals of the country. At the firm level (among private sector businesses), there are also incidences or perception of corruption or corrupt practices. Unfortunately, the perception of corruption among private business practitioners is done in connivance with public sector officials. Even though the government does not have direct control over the activities of the private sector, the national economy suffers very much from the incidence and perception of corruption in the sector. Good record keeping is particularly important for the integrity of businesses. Many researches and reports have acknowledged and contributed to the economic impact of SMEs (also SMEs) on the Ghanaian economy (Kufour, 2008; Adjei, 2012; Opong, Owiredu & Churchill, 2014). SMEs have been considered pivotal in the socio-economic development of the country. It is estimated that SMEs occupy between 85%-95% of all businesses in Ghana. They contribute about 22%-70% to GDP and provide about 85% of employment in the manufacturing sector.

2. REVIEW LITERATURE

According to Opong, Owiredu & Churchill (2014), the high incidence of corruption in the Ghanaian society affects recording keeping in SMEs. In their view, poor record management promotes none payment of taxes, fees and charges to the government. UNIDO and UNODC (2012) report shows that SMEs are prone to invitations by state officials to make payments to avoid "customs, licenses, taxation, court cases and public procurement". Writing on obstacles to SME growth in Sub-Saharan Africa, Fjose Green & Grünfeld (2010) identified corruption and red tape as some SME growth inhibiting factors. It actually ranks fifth among the constraints to SME growth in Sub-Saharan Africa. SMEs suffer from the prevalence of corruption in the form of reduced profits (UNIDO &

UNODC, 2012). Corruption affects SMEs in the following ways; start-up and business registration fees and charges, accessibility of business support services, award of contracts and income tax payment. It has been noted that, “dash” or “tips” are normally demanded by government employees in low positions. Although the government has very good anti-corruption laws and even criminalizes bribery and corruption, however, it faces serious challenges in ensuring the workability of these legal frameworks (<http://www.business-anti-corruption.com/>). It has been established in a survey conducted by the European Bank for Reconstruction and Development and the World Bank that SMEs make more unofficial (bribes) payments in both up to and over 10% of their revenue.

Mauro (1995), conducted an empirical analysis of corruption by investigating the relationship between investment and corruption for 58 countries. His result revealed that corruption has a significant negative effect on the ratio of investment to GDP, which is consistent with the view that corruption is deleterious for economic growth. Corruption has negatively impacted the level of investment and economic growth according to Mauro (1995), the quality of infrastructure and the productivity of public investment (Tanzi and Davoodi, 1997), on health care and education services (Gupta, Davoodi and Tiongson 2000), and on income inequality. Invariably, foreign investors would avoid investing in countries where there is a high level of corruption. Interestingly, recent studies have shown that the effects of corruption depend on the country’s rule of law and economic liberalization. Houston (2007), studied the effects of corruption on a country’s economic performance and found that corruption has positive effects on economic growth in countries with a weak rule of law and regulatory enforcement, while the reverse is the case in countries with strong and sound institutions. Furtherance to this, Swaleheen and Stansel (2007) found in their research that corruption promotes and enhances economic growth in countries with economic freedom, while it hinders economic growth in countries with low economic freedom.

Research conducted by Egger and Winner (2005), revealed that European Union countries recorded the lowest score on corruption, followed by Central and Southern America, Asian economies while Africa was the most corrupted continent (Transparency International Corruption Perceived Index). Due to high level of corruption in African, substantial amount of tax revenue which can be used by the government to provide infrastructure for attraction of foreign investors are eroded by these corrupt officials. International investors are of the view that it is better to incur more cost to ensure their property rights than to protect their contracts because of corruption.

2.1. Corruption and Foreign Direct Investment

Several researchers such as Mauro (1998), Gupta et al (2002), and Tanzi and Davoodi (2002) studies revealed the negative relationship between corruption and human capital, which serve best to decrease the ability of corrupt countries to adopt modern technologies from developed countries. According to Transparency International (Report, 2009), FDI inflows was at a peak in 2007 with a total amount of 1.8 trillion US dollars globally. Over 500 billion US dollars was reported to developing countries and 13 billion US dollars to least developed countries. Nonetheless, more and more corruption might lead to less FDI to recipient countries or continent. Corruption does not only reduce FDI inflows but also lead to lower international investment and increases the cost of investing which retard growth and development. Kim et al (2013), empirical results revealed that countries with low human capital, or high corruption experienced lower domestic investment.

Many analysts and researchers agree that foreign direct investment helps to generate high productivity effects for host countries. A study by Omoniyi and Omobitan (2011), revealed that FDI inflows leads to expansion of activities of MNCs through foreign technology, technical know-how, imitation and innovation which links the foreign and domestic firms. Asafu – Adjaye (2005), summarized the effects of FDI by linking to economic growth through investment and productivity. Obviously, corruption resulted in reducing the returns of productive activities because resources will flow from productive activities to corruption activities over time (Murphy et al 1993). Empirically, corruption may be negatively affected by a country’s ability to attract foreign direct investment as an extra tax on profits. Bardhan (1997) suggested that there was decrease in investment profitability as a result of increased costs of doing business. Some recent studies have provided an evidence of a negative relationship between corruption and FDI inflows. The most notable among them are (Hines, 1995, Wei, 1997, 2000, Habib and Zurawicki, 2002, Voyer and Beamish, 2004, Hakkala et al, 2008, Al – Sadig, 2009 and Schudel, 2010).

3. DATA AND METHODOLOGY

3.1 Data

The study employed annual time series data for the period the 2004 – 2014 obtained from published sources on FDI, corruption, economic growth, and trade. The data were collected from different sources. The major sources of data included World Bank’s World Development Indicators, database 2014 CD-ROM, IMF International Financial Statistics, 2014, Corruption Perceptions Index (CPI, 2014), Transparency International, a global civil organization, African Development Indicators, WTO Trade Statistics. Other sources included annual reports of

Bank of Ghana, State of the Ghanaian Economy (various issues) by Institute of Statistical, Social and Economic Research (ISSER). Institute of Economic Affairs' (IEA)

3.2 Methodology

The ordinary least square (OLS) estimation was used based on the fact that it is the best model suited for testing specific hypothesis about the nature of economic relationship according to Gujarati 2004. The properties of the variables in the time series were examined. Unit Root Test and Granger Causality Test were performed in order to determine the relationship between Corruption and foreign direct investment (FDI) inflow on the Ghana economy. The purpose of this study is to examine the effects of corruption on foreign direct investment and growth in Ghana. The findings of this study if implemented will not only help investors, government and academia, but will enable Ghana as a whole to attract more foreign direct investment for economic development. The use of content analysis of relevant literature and reports from various scholars was corroborated in the selection of some macroeconomic variables for the result. Thus the model is adopted to take the following specification.

$$FDI = a_0 + a_1CPI + a_2GDP_t + a_3TRA_t + e_t \dots\dots\dots (1)$$

Where;

FDI = Foreign Direct Investment

CPI = Corruption Perception Index

GDP = Gross Domestic Product

TRA = Trade Volume

ϵ = is the noise or stochastic random term.

4. ESTIMATION TECHNIQUES

4.1 Unit Root Test

To avoid spurious regression, we conducted the Augmented Dickey-Fuller (ADF) test and the Philips-Perron (PP) test to check whether each data series is integrated and has a unit root, thereby testing the stationarity of the variables. A variable that has unit root is non-stationary in the level form becomes stationary after being differenced once. Such a variable is also called integrated of order one and it usually denoted by I(1), Hatemi-J and Hacker pointed out that it is important to test for unit root because in the unit roots the standard distribution of test statistics are not correct and there is risk of having spurious regression result.

The formula is expressed as follows;

$$\Delta y_t = a_0 + a_1y_{t-1} + \sum_{i=1}^n a_i\Delta y_i + e_t \dots\dots\dots (2)$$

4.2 Co-integration Test

Vector Autoregressive, (VAR) is used to the optimal lag length for the Johanson Co-integration Test, Johanson (1991) which is based on the AIC and SC criteria was used to test for the co-integration relationships among the series in the model. Two or more variables are said to be co-integrated (there is a long-run equilibrium relationship), if they share common trend. Co-integration exists when a linear combination of two or more non-stationary variables is stationary. Johanson (1991) co-integration techniques were developed to test and determine the number of co-integrating relationships between the non-stationary variables in the system using a maximum likelihood procedure.

4.3 Granger Causality Test

Granger causality test was conducted to identify causal relationship between the variables employed and to determine whether the current lagged values of one variable affect another. According to Granger (1969) a variable y is caused by another variable x if y can be predicted well from the past values of y and x than from past values of y alone. The Granger test may be explained with the help of the following equation:

$$X_t = a_0 + \sum_{j=1}^m a_jx_{t-j} + \sum_{j=1}^n b_jy_{t-j} + e_t \dots\dots\dots (3)$$

$$Y_t = c_0 + \sum_{j=1}^m c_jx_{t-j} + \sum_{j=1}^n d_jy_{t-j} + w_t \dots\dots\dots ..(4)$$

5. RESULTS PRESENTATION AND DISCUSSION

5.1 Unit Root Test Analysis

Granger causality tests require the use of stationary time-series data (Granger and Newbold, 1974; Ong, 1994; Huang, 1995). Under existing practice the unit root test is conducted to check the stationarity of data series. This step is very vital because if non-stationary variables are not identified and used in the model, it will lead to a problem of spurious regression, whereby the results suggest that there are statistically significant relationships between the variables in the regression model when in fact all that is evidenced is contemporaneous correlation

rather than meaningful causal relationships. The Augmented Dickey-Fuller test was used and the test results are presented in table 1.

Table 1: Results of the Test for Stationary: Using Augmented Dickey Fuller Test

Variables	Level/ Δ Level	Calculated ADF	ADF critical value 5%	Probability Values	Included in test equation	Inference
FDI	Level	-1.506602	-3.212696	0.4894	Intercept & trend	Non-stationary
	Δ Level	-1.988198	-1.754490	0.0460		Stationary
CPI	Level	-2.280659	-4.008157	0.1521	Intercept & trend	Non-stationary
	Δ Level	-5.162166	-3.259808	0.0039		Stationary
GDP	Level	0.546254	-3.212696	0.9783	Intercept & trend	Non-stationary
	Δ Level	-3.269942	-2.006292	0.0058		Stationary
TRADE	Level	-1.841873	-4.008157	0.6117	Intercept & trend	Non-stationary
	Δ Level	-2.267105	-1.988198	0.0298		Stationary

Source: computed by authors using E-views software

The unit root test result reveals that all the variables in the Foreign Direct investment equation are non-stationary at their levels but become stationary after first differencing. This suggests the use of co-integration analysis since the concept of co-integration requires variables must be stationary after differencing at least once.

5.2 Lag Selection Criteria

Prior to estimating for the co-integrating equation and granger causality test relationships, we have used final prediction error, Akaike information criterion, Schwarz information criterion and Hannan-Quinn information criterion in the study and the results are presented in table 2. The criterion suggested the lag of 1 at which the values of information criterions are minimum.

Table 2: Lag Length Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-68.84771	NA	0.008838	6.622519	6.820890	6.669249
1	-34.46140	53.14247*	0.001715*	4.951037*	5.942893*	5.184688*
2	-24.24586	12.07291	0.003444	5.476897	7.262239	5.897470

Source: Computed by authors using E-views software

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

5.3 Co-integration Test Analysis:

The stationary linear combination is called the co-integrating equation and may be interpreted as a long run equilibrium relationship between variables. The common objective is to determine the most stationary linear combination of the time series variables under consideration. Consequently, Johansen and Juselius (1988, 1990) co-integration technique has been employed for the investigation of stable long run relationships between foreign direct investment, corruption, GDP growth and trade in Ghana by using both the Trace and Maximum-Eigen tests statistics. The results are presented in table 3 and 4.

Table: 3. Unrestricted Co-integration Rank Test Result (Trace)

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.986944	174.0666	95.75366	0.0000
At most 1 *	0.756917	78.61983	69.81889	0.0084
At most 2	0.609239	47.50409	47.85613	0.0539
At most 3	0.510364	26.83160	29.79707	0.1058

Source: Computed by authors using E-views software

Trace test indicates 2 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

Table: 4. Unrestricted Co-integration Rank Test Result (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.986944	95.44681	40.07757	0.0000
At most 1	0.756917	31.11574	33.87687	0.1031
At most 2	0.609239	20.67248	27.58434	0.2965
At most 3	0.510364	15.71006	21.13162	0.2422

Source: Computed by authors using E-views software

Max-eigenvalue test indicates 1 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

The results of both the trace test (table 3) and the maximum-eigen test (table 4) indicate that co-integrating equation exists at the 5% significance level. Therefore the null hypothesis of no co-integrating equation is rejected. Consequently, it can be concluded that there is a significant long run relationship between the given variables. Since variables can either have long run or short run effects, then an error correction model (ECM) is used to disaggregate this effect.

Table 5: Result of the long run co-integrating relationship

Dependent variable: FDI

Independent variables	coefficient	Standard error	t-statistics	Conclusion
CPI	-19.19210	1.37621	-13.94562	Significant
GDP	13.39416	1.11570	12.00516	Significant
TRADE	3.169725	0.14968	21.17668	Significant
C	56.24013

Source: Computed by author from e-views output

The result of the long-run co-integrating relationship in the Foreign Direct Investment model shows that GDP growth and trade have significant positive effects on foreign direct investment inflow in Ghana whereas corruption has a negative one.

Short run dynamics (ECM)

Table 6: Error Correction Model. Dependent variable FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.823289	1.672034	0.492388	0.6433
D(CPI)	-0.506211	0.203131	-2.492038	0.0299
D(GDP)	2.192059	0.681185	3.218007	0.0082
D(TRADE)	0.663644	0.228092	2.909547	0.0142
ECM(-1)	-2.092548	0.391984	-5.338346	0.0002

R-squared	0.863513	Mean dependent var	0.764192
Adjusted R-squared	0.751842	S.D. dependent var	1.557342
S.E. of regression	1.832548	Akaike info criterion	4.356144
Sum squared resid	16.79115	Schwarz criterion	4.507437
Log likelihood	-16.78072	Hannan-Quinn criter.	4.190177
F-statistic	7.374949	Durbin-Watson stat	2.042399
Prob(F-statistic)	0.008407		

Source: Computed by authors using E-views software

The coefficient of corruption index -0.506211 has a negative and significant impact on FDI inflows. There is an inverse relationship between corruption and Foreign Direct Investment flows. This implies that a 1% increase in the corruption rate leads to approximately 50.6% decrease in FDI inflows into Ghana. This outcome is in line with theories and previous studies that rampant corruption in an economy may discourage or scare away foreign investors.

Unlike corruption, the coefficient of GDP growth 2.192059 has a positive and significant impact on Foreign Direct Investment inflows. There is a direct relationship between GDP growth and Foreign Direct Investment inflows. This implies that a 1% increase in GDP growth can lead to approximately 219.2% increase in FDI inflows to Ghana. This finding is in conformity with theories and findings from previous studies that there exist a positive relationship between GDP growth and Foreign Direct investment.

Similarly, the coefficient of trade 0.663644 has a positive and significant impact on Foreign Direct Investment inflows. There is a direct relationship between trade and Foreign Direct Investment inflows. This implies that a 1% increase in trade can lead to approximately 66.4% increase in FDI inflows to Ghana. This finding is also in conformity with theories and findings from previous studies that there exist a positive

relationship between trade and Foreign Direct investment.

The coefficient of the error correction term indicates the speed of adjustment in eliminating deviation from the long run equilibrium. It shows how much time would be taken by the economy to reach at long run equilibrium. Its coefficient is statistically significant with t-value of -2.092548. This shows that the speed of adjustment is approximately 209.3% implying that if there is a deviation from the equilibrium, approximately 209.3% of FDI inflow is corrected annually as the variable moves towards restoring equilibrium.

The R-square expressed in coefficient of correlation shows the strength of the linear relation among the variables. The adjusted R- squared value is 0.751842, implying that approximately 75.2% of the variation in the Foreign Direct Investment is explained by the independent variables, which is an indication of a very good fit. The Durbin-Watson statistic is greater than 2 suggesting that there is no first order autocorrelation which implies that the regression has an economic meaning. The overall equation is statistically significant as shown by the probability value of the F-statistic (0.008407).

The Granger Causality Result

The study has found interesting results of granger causality in table 7 based on probability values less than 5%. This demonstrates that corruption, GDP growth and trade have significant impact on FDI inflow to Ghana.

Table 7: Pair-wise Granger Causality test.

: Null Hypothesis	Lag	F-Statistic	Prob.
CPI does not Granger Cause FDI	1	4.40935	0.0429
FDI does not Granger Cause CPI		10.2653	0.0047
GDP does not Granger Cause FDI	1	0.08085	0.7844
FDI does not Granger Cause GDP		0.26883	0.6201
TRADE does not Granger Cause FDI	1	14.9401	0.0015
FDI does not Granger Cause TRADE		4.39227	0.0432
GDP does not Granger Cause CPI	1	5.44502	0.0523
CPI does not Granger Cause GDP		0.06323	0.8087
TRADE does not Granger Cause CPI	1	5.23022	0.0286
CPI does not Granger Cause TRADE		0.56491	0.4768
TRADE does not Granger Cause GDP	1	1.08595	0.3320
GDP does not Granger Cause TRADE		5.66088	0.0489

Source: Computed by authors using E-views software

The granger causality test was conducted to examine whether causal relationship exist between the variables under investigation. The result based on the significant probability values less than or equal to 0.10 reveals that there exists bi-directional causal relationship between corruption and FDI; and trade and FDI. This means that there is strong causality between corruption and FDI; and trade and FDI, which is true for lag order one in case of Ghana. Each of these indicators leads the other by one year in Ghana.

The result further shows the existence of unidirectional causal relationship between GDP growth and corruption; trade and corruption; and GDP growth and trade. This relationship is what is termed as one way causation or unidirectional causality where one indicator causes the other but not the other way round.

However, there was no causal relationship between GDP growth and FDI. From the F-statistics of 0.08085 and 0.26883 and their corresponding probability values of 0.7844 and 0.6201 respectively, we fail to reject the null hypothesis of GDP does not Granger Cause FDI and FDI does not granger cause GDP. Our sample is statistically rejected for the causal affect running between GDP and FDI.

Diagnostics and Stability Test Results

Diagnostic tests were performed in order to validate the parameter evaluation of the outcomes achieved by the model adopted in this research. The goodness of fit of the model was tested in five main ways, i.e. the langrage multiplier (LM) test for serial correlation, the ARCH effect on the model's error, the Breusch-Godfrey test for heteroscedasticity, Ramsey RESET test for correct specification of the model and the Jarque-Bera for normality test. These tests results are presented in table 8.

Table 8: Diagnostic test results

Test	Null Hypothesis	F-Statistics	Probability
Langrage Multiplier (LM)	No serially correlated errors	2.640162	0.2671
ARCH	ARCH effect does not portray model's errors	0.800939	0.3708
Ramsey RESET	Model is correctly specified	0.001326	0.9727
Breusch-Godfrey	No heteroscedasticity	3.751521	0.4407
Jarque-Bera (JB)	There is a normal distribution	0.423074	0.8093

Source: Computed by authors using E-views software

The results presented in table 8 suggest that there is no serial correlation, there is no ARCH effect on

the model's error, there is no heteroscedasticity, there is a normal distribution and the model is correctly specified. We therefore fail to reject the null hypothesis and conclude that the model has a very good fit. +With regards stability test, evidence from the figures below shows that both the CUSUM and CUSUMQ plots lie within the 5% critical bound thus providing support that the parameters of the model do not suffer from any structural instability over the period of study.

Figure 1: Plot of Cumulative Sum (CUSUM)

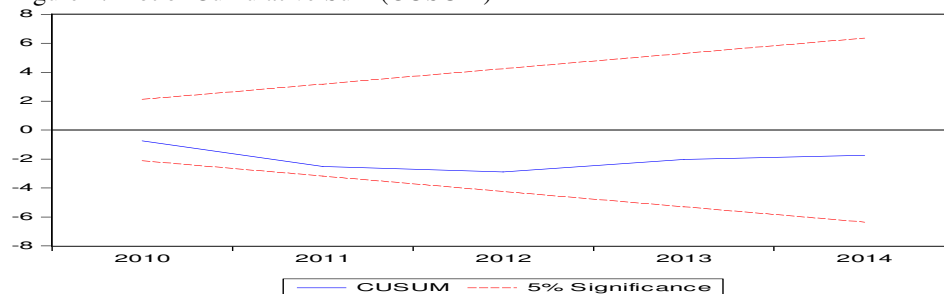
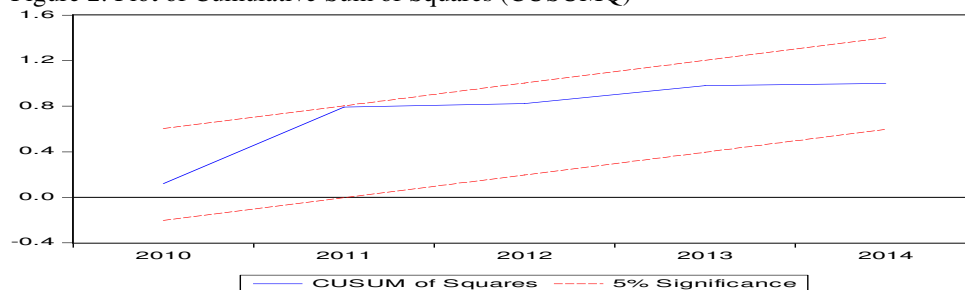


Figure 2: Plot of Cumulative Sum of Squares (CUSUMQ)



6. CONCLUSION AND RECOMMENDATIONS

The literature on the corruption and foreign direct investment relationship has emanated up with mixed results so far. Where some research studies have concluded that corruption reduces FDI influx, others disputed for the lack of a significant relationship between these two. In reconsideration, this study has established the presence of a negative relationship between the perceptions of corruption and the level of FDI inflows in Ghana. Thus the study has provided further evidence for the view that corruption has a significant negative impact on FDI inflows in the economy of Ghana. The study, though empirical in nature, has used both theoretical and empirical data to show the effects of corruption in the economic development of Ghana. The empirical was used to establish the relationship between corruption and FDI. Our main result provides evidence from the empirical analysis which shows that, there is a direct correlation between corruption and FDI. The study has also shown that corruption does not only affect the national purse in terms of decrease or withdrawal of FDI inflow. Corruption does have negative effect on SMEs growth and development. Apart from the profit margin of SMEs which are negatively affected by the incidence of corruption, the very survival of SMEs is at risk. With all the anti-corruption laws and policies of the government of Ghana, there is the need for more strategic and concerted efforts to minimize or eliminate the incidence of corruption in the country. Specifically, SMEs need more protection from the government because they lack the financial and market prowess to enforce the policy of zero-tolerance to corruption. Moreover, Small and Medium Enterprises (SMEs) contributed about 22%-70% to GDP and provide about 85% of employment in the manufacturing sector. The study has therefore recommended the following to boost the anti-corruption policies of the government; (1) increasing transparency of government affairs, (2) holding government officials responsible for mismanagement made under their tenure, (3) strong independent judiciary to hold officials for corrupt practices to be punished severely. (4) The discretionary powers of government officials to award contracts should be reduced; (5) there should be broadening freedom of the media. , In order to attract more FDI inflow to boost economic growth and portfolio investment, Ghana needs more strategic and concerted efforts by both public and private opinion leaders in fighting corruption as a social, economic and political problem that serves as impediment to economic growth.

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