

THE DYNAMIC RELATIONSHIP BETWEEN E-COMMERCE, FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH A CASE OF GHANA

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ABSTRACT

The study of economic growth of a nation is difficult as its factors are mixture of many variables according to their function in the rate of growth of Gross Domestic Product (GDP). Therefore, for a specific nation to obviously identify its linkage, the matter deserves further investigation. The objective of the study is to identify the association between E-commerce, FDI inflows and GDP of Ghana between 2000 to 2015 year. The general form of multivariate vector error correction model (VECM) was used to analyse the dynamic association between the variables. The variables: GDP & FDI and GDP & E-Commerce are bidirectional that changes in any of them affects the other variables. This means the government must make sure that policies to improve economic growth must target E-Commerce and FDI growth. The FDI and E-Commerce are unidirectional and changes in FDI affect E-Commerce but changes in E-Commerce do not affect FDI. The dynamic relationship between E-Commerce, FDI and the rate of Economic growth are improvement of FDI will improve of E-Commerce and it will subsequently drag the next phase of economic.

Keywords: Economic growth, E-commerce, Foreign Direct Investment, Relationship, Ghana.

INTRODUCTION

E-Commerce and Internationalisation are likely to transform economic composition of nations. E-commerce is the use of digital information technology know-how and electronic communications in trade transactions to redefine, create and transform relationships for value formation between or among organizations, and between individuals and organizations, Lallana et al. (2002). E-commerce is one of the many perceptible examples of which information and communication knowledge can add to growth of an economy. It helps nations to improve trade efficiency and facilitate the assimilation of developing nations into the global economy. It allows entrepreneurs and business to turn out to be more competitive, it provides jobs leading to wealth creation.

Moreover, International trade has emerged over time in developing nations, with one predicting the transformation as the utilization of technologies in E-commerce. E-commerce term is used to explain trade sales transactions linked to the Internet Globalization. It is predicted to alter economic composition of countries. Research affirmed that internet technology has lead to a boost in international business, Freund and Weinhold (2004), Pohjola M. (2002). International

commerce has rise over time with one suggested root as the use of innovations such as E-Commerce. It is a tenuous phrase used to express business transactions linked with the Internet. E-commerce and Globalization are projected to change economic composition of nations. The approval of ICT like Internet makes it easier and cheaper for business entities to widen their markets, synchronize value chains across borders and control their operations. Cavusgil (2006), Euro info MK, (2002), Freund and Weinhold, (2004). Also Greenspan (2001) suggested that, by reducing costs of information and transactions, technology innovation has decreased market challenges and provided important impetus to the path of action of expanding world markets Globerman et al, (2001).

However, the study of the expansion of an economy of a nation is difficult as its factors are a mixture of many variables according to their character in the rate of expansion of Gross Domestic Product (GDP). Nevertheless, the examination of the most important factors can be very important especially to the policy makers to ensure further growth in that variable. Some determinants known to explain economic growth are E-commerce and Foreign Direct Investment (FDI), it has become a major component in this increasing trend of integration and internationalisation in this world economy. The issue as to how and to what level FDI impact on rate of economic growth is fairly grey from one investigation to another. In developing nations, FDI is seen most at times as the major contributor on the rate of economic growth. Some development economists have postulated that countries pursuing outward-oriented expansion strategies are most likely to attain increasing rates of expansion in the economy than the others who are inward looking. Sethi and Sucharita (2011). Investment is said to be a critical path for innovation in economic expansion as a product of poverty reduction. Various practical studies have recognized linkages between economic expansion and investment Ghura & Hadjimichael, (1996); Ben-David, (1998); Collier & Gunning, (1999); Hernandez, (2000); Ndikumana, (2000).

Consequently, E-Commerce and the Foreign Direct Investment have a critical function by making a considerable contribution to the rate of economic expansion and investing in sub major sectors of the economy. They bring along certain indirect positive effects including transfer of technology, employment, training, and skills etc, which contribute to the extensive development of the receiver nation. Also, the excellent rise in E-Commerce and FDI inflows demand a serious analysis of their association because the direct association between E-Commerce and FDI inflows, rate of expansion cannot be generally accepted and the assertion whether E-Commerce and FDI cause economic expansion can be diverse, but their crucial roles in a nation cannot be overlooked. Therefore the subject deserves extra research for a specific nation to plainly discover the linkage, and hence Ghana. The paper identifies the connection between E- commerce, FDI inflows and GDP of Ghana over 2000 to 2016 period.

The rest of the paper further discusses background of E-commerce and FDI in Ghana, literature review, methodology, analysis of results and conclusion.

BRIEF BACKGROUND OF E-COMMERCE AND FOREIGN DIRECT INVESTMENT IN GHANA

The success of every company such as Ebay, Alibaba, Taobao, Amazon etc has shown that internet is a veritable tool for business. Ghana started with three internet providers; Network

Computer Systems, Africa Online and Ghana Internet Service in the middle of 1990s. The rising number of technologically inclined people has helped the massive part in the march forward. Currently it has 5,171,993 internet users out of about 26 million representing 19.56% of the population. Ghana was ranked 99 in the 2016 in the world, showing improvement from 108 in 2014 according to UNCTAD B2C E-Commerce Index 2016. From July 2015 to July 2016 mobile money subscribers increased from 10.4 million to 17.2 million and the active participants shot up above 5.3 million, Bank of Ghana Report (2016).

The historical movement of FDI receipts to Ghana was evident in three major phases since 1983, Tsikata et al. (2000). In 1983-88 period witnessed lethargic inflows, averaging \$4 million yearly. The maximum receipt during the period was \$6 million in the year 1985 and minimum inflows during the same period interval was \$2 million in 1984. In 1989-92 period saw modest inflows of averaging \$18 million yearly, the maximum in \$22 million, in the year 1992 and minimum being \$14.8 million in 1990. The period interval of 1993-1996 was noteworthy but oscillatory inflows FDI sharply rose in 1994 with \$233 million but declined to \$107million the subsequent year which was more than 50%. Another significant element of the FDI inflows is the three-way nexus of political stability, investment and economic growth, Tsikata et al. (2000). FDI inflows into Ghana had been continually rising in current years. In period of 2013, Ghana was the fourth major beneficiary of the FDI in sub-Saharan Africa. In 2015 FDI flows went down drastically, essentially due to the declining prices of oil. As a result, there has been less concern in investing in the nation's mining capacities. In 2014 FDI reached USD 3.4 billion but, went down by [31% in 2015](#). Ghana and Turkish governments signed four (4) agreement in March 2016 aim at promoting FDI growth. Mining and crude oil exploration are the major sub sectors that draw most of the FDI. The major countries that do investment are United Kingdom, China, India and Lebanon.

LITERATURE REVIEW

E-Commerce and Economic Growth

Brookes & Walhhaj (2000) applied multi-regional econometric models (MULTMOD) to calculate the outcome of the B2B E-Commerce to the macroeconomic in US, Germany, Japan, France and Britain. Using input-output values, they estimated the general outcome on the economy applying MULTMOD. It conclusion was that the B2B E-Commerce will cause a rise of annual GDP of 0.25% in the economies. Information from the period 2000-2010 shows that E-Commerce made EU mean productivity growth from 0.3% to 1.7% in a year. Also the period 1995-2010, US productivity of E-Commerce grow from an annual mean of 1.2% to 2.1% because of popularity of E-Commerce. (www.netimpactstudy.com)

Conversely, there are other qualitative investigation on E-Commerce effects on the business institution and other determinants of production, Jonathan & Willis (2004) did systematic analysis of the force of E-Commerce on the yield of the US economy. The investigation shows that E-Commerce will raise the yields of US economy and decrease inflation. Irina (2009) concludes that E-Commerce changes the competitive component, produce new economic growth position to advance economic growth. It changes the way public institute of production, decreases environmental contamination and advance the situation asymmetric information. Craova (2011), studies concluded that E-Commerce has impacted the worldwide economy in

various ways. It has expanded information technology, its entire economic sector and has enhanced the productivity growth worldwide. E-Commerce force on developing nations could be greater because the span for dropping inefficiencies and growing production is much greater in developing countries. Moreover, Terzia (2011), studies on the impact of E-Commerce on Employment and International Trade concludes that new jobs will be created in the information and communication technology sub sector and indirect jobs will arise via raised in demand and production. However, it leads to reallocation and damage of jobs as an outcome of movement in the mode of doing trade in E-Commerce. The net effect on employment will be a complex set of exchanges and will by no ways be identical across nations, geographical areas, industries and skill groups.

Foreign Direct Investment and Economic Growth

The direct connection between FDI and the impact generated in the nation needs the insurance of a minimum rank of economic & financial stability, human capital and a level of market liberalization Blomstrom, (1994); UNCTAD, (1999); Sarkar, (2007). Nevertheless, Salman, Feng (2009) and Misztal (2011) stated the purpose of the foreign capitals in advancing a rise in GDP rate through contribution to capital formation, human resources development and increasing the power of competitiveness on the local market. The huge force of FDI on economic growth may positively change the growth by creating transfer of new technologies and capital accumulation to the beneficiary nations or indirectly by adding the stock awareness of the beneficiary nations De Mello (1999). Miankhel et al. (2009) applying time series structure of the VECM to investigate the dynamic relationship among FDI, GDP and Export for six promising countries of, Malaysia, Pakistan Chile, India, Mexico and Thailand, capturing a range of years 1970 to 2005, According to Miankhel (2009) the GDP growth in the long period attracted FDI in India. In Thailand, the result shows a bidirectional association between GDP and FDI with a block erogeneity test. That is expansion of GDP draws FDI and the receipt of FDI further stirred the expansion of GDP. Furthermore, Hoang et al (2010) try to examine the effect of FDI receipt on economic expansion in Vietnam by means of panel data of 61 provinces on a period between 1995 to 2006. It included the power of human capital, the extent of trade openness, and the home investment in Vietnam, the relations terms between FDI with trade, domestic investment and human capital. Their conclusion of the significant and positive coefficient of FDI means that it has a good outcome on Vietnamese economic expansion. Their study shows that all areas of Vietnam have good effect on the economic expansion of the country. The researchers believe that a boost in FDI inflows in the area will enhance the speed of economic expansion in Vietnam. Another study by Kotrajaras, et al (2011) investigated the force of FDI among groups of fifteen East Asian economics grouped by intensity of economic improvement, by method of panel data examination and co-integration test. The outcome showed that optimistic effects of FDI on nations depend on balancing factors, especially each host nations' economic environment such better governance as stage of financial market development, institutional development and suitable macroeconomic policies. The study reported that FDI has a direct relationship with economic expansion in rich income (Japan, Hong Kong, Taiwan, South Korea, and Singapore) and middle-income nations (China, India, the Philippines, Indonesia, Malaysia and Thailand). Also, the high-income nations will gain more than middle-income nations. Myanmar, Cambodia, Vietnam and Lao which are low income nations tended to gain less from FDI this is because the low-income nations do not have suitable facilities from

government investment, low amount of trade openness, low intensity of public investment on education, low intensity of financial development, and high level of corruption. They concluded that the low-income economies are not competent of absorbing the gains of FDI.

Conversely, the investigation that recognized a negative association as an outcome of the investigation is few. In the view of Kholdy (1995) who used Granger causality assessment on Eastern Asia economies (10 nations). The negative correlation is established by Lyroudi and Papanastosiou (2004) through the use of Bayesian examination and Carkovic and Levine (2005) who results show negative through their investigation using variables such as level of education, economic and commercial development in the recipient nation, as “the explanatory part of FDI does not affect an optimistic and vigorous influence on economic growth” and “does not exist any empirical, trans-national and confident evidence to hold the claim that FDI speeds up economic development”, Moreover Lipsey and Sjöholm (2005) mentioned that “there is no widespread relation between the proportion of FDI receipt in GDP and the nationwide growth rate”. The FDI may cause a negative consequence on economic expansion in developing nations, as FDI at all times induces an increase income inequality Haddad and Harrison (1993), Eric and Joseph (2006).

METHODOLOGY

Model Specification

The general form of Multivariate Vector Error Correction Model (VECM) is applied to analyse the dynamic association between the variables, e-commerce, economic growth and foreign direct investment both in long run period and short run periods. Real GDP as proxy of rate of Economic Growth. Secures Internet Servers, Fixed Broadband Subscription and Mobile Cellular Subscription as proxy for E-Commerce. Lastly receipt of Foreign Direct Investment (FDI). Data source is from World Development Indicators - World Bank which covers the years of 1995 – 2015 and its annual data. Stationality test is undertaken using both Descriptive Statistics and Augmented Dickey Fuller (ADF) test reinforced by the Philip-Perron (PP) test to check the incidence of unit roots. The multivariate co integration check based on Johansen model is performed. If two determinants are co integrated than Granger causality check is perform to establish their relationship.

Unit Root Test

The equation of ADF check is given as:

$$\Delta Y_t = \alpha + \beta_t + \delta Y_{t-1} + \sum \delta_i \Delta Y_{t-1} + \delta_n \Delta Y_{t-n} + \varepsilon_t$$

The equation includes intercept and time trend. α_0 is a constant, δ is a coefficient of autoregressive process, Δ is the difference operator, t is a time trend, Y_t is the variable under consideration, n is the figure of lags and ε_t is the stochastic error term. The lagged differences of the factors are augmented to the test model in sort to mitigate autocorrelation problems in the disturbance term. The PP test is given as

$$\Delta Y_t = \alpha + \beta_t + \delta Y_{t-1} + \sum \delta_i \Delta Y_{t-1} + \varepsilon_t$$

It is almost the same as ADF test except n is left out to adjust for error to correct autocorrelation and hetroskedasticity. The tests is based on rejecting the null hypothesis of a unit root in support of the alternative hypothesis of no unit root.

Details about methodology should be given in this section. Font Size 12, Times New Roman, single spaced. All the subheadings in this section should be in font size 12 Bold, Times New Roman, single spaced. The first letter of each word in subheading should be capital.

TABLE 1: ANALYSIS OF UNIT ROOT

VARIABLE	NO. OF LAGGED	T			PROBABILIT Y	
		STATISTIC	1%	5%		10%
LOGGDP	1	-3.230874	-3.831511	-3.02997	2.655194	0.0339
LOGEC	1	-3.620748	-4.532598	-3.573614	-3.277364	0.0275
LOGFDI	1	-3.326776	-3.831511	-3.02997	-2.655194	0.028

The ADF check reinforced by the PP test in table 1 suggested that all the values were not stationery at their levels, however after their first difference the variables achieved stationality. The absolute sizes of T statistics were larger than their critical values at 5 percentage level and their individual probabilities fewer than 5 percent.

Analysis of Cointegration Test

After checking that the sequence are integrated of array one I (1), it is now possible to check co integration between e-commerce, foreign direct investment receipts and rate of economic growth by applying the Johansen's multivariate framework. The test is carried out in the form vector autoregressive model (VAR):

$$\Phi(A)B = \Psi_t(16)$$

Where $B = (EC_t, FDI_t)'$, $\Phi(A)$ denotes the long period multiplier matrix, Φ denotes coefficients of the short run period dynamics and A denotes a lag operator. EC and FDI are E-Commerce and the Foreign Direct Investment respectively. The incidence of co integration means that there was a long period connection between the factors in the form.

The thought behind the incidence of co integration is that although E-Commerce, FDI and Economic growth will develop over time, a steady co integration balance relationship must exist between them. Mostly, E-Commerce and FDI are sustainable if the variables do not glide too far apart above the long period. Nevertheless the variables can diverge from each other over the short period but forces within the economy must reinstate them back on the long period.

Series: LOGGDP LOGEC LOGFDI

Lags interval (in first differences): 1 to 2

TABLE 2: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.877429	61.12676	29.79707	0.0000
At most 1 *	0.725837	23.34365	15.49471	0.0027
At most 2	0.002833	0.051070	3.841466	0.8212

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 3: Unrestricted Co integration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.877429	37.78311	21.13162	0.0001
At most 1 *	0.725837	23.29258	14.26460	0.0015
At most 2	0.002833	0.051070	3.841466	0.8212

Max-eigenvalue 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

The hypothesis is that no co integration relationship existing among the factors was refuted at None and At Most 1 because both the trace statistics and max-eigen value were bigger over their critical values at 5 percent, it is also significant statistically. However, the null proposition is accepted that At Most 2 co integration relationship exist at 5 percentage level since the trace value and max-eigen value are smaller than the critical value. The test also review that there is existence of long period association between economic growth and the independent variables. It however refuted the assertion that the null hypothesis of non existence of co integration in the long period.

The normalized outcome shows that E-Commerce and the Foreign Direct Investment have a positive force on speed of Economic Growth. The long-run elasticity of E-Commerce to GDP is 0.0285 and FDI to GDP is 0.474, consequently a 10 percent rise in E-Commerce increases the GDP by 0.28 percent. But a 10 percent raise in FDI increases the GDP up by 4.74 percent. The FDI has a greater force on level of economic growth than that of the E-Commerce in the Ghanaian case. The reason maybe that due to the early starts of FDI and the late starts of the e-commerce in Ghana.

Vector Error Correction Model

To unearth the dynamic effects between the Ghanaian E-Commerce transactions, Foreign Direct Investment receipts and the speed of Economic growth, we establish the vector error correction model between the stage of e-commerce, the stage of foreign direct investment and the speed of economic growth fluctuations. The simulation VECM between the LOGGDP, LOGEC and LOGFDI, influencing the number of lags is to the AIC and SC information standard. It determines an order VECM between the LOGGPD, LOGEC and LOGFDI.

Table 4 Vector Error Correction Estimates
Standard errors in () & t-statistics in []

Error Correction:	D(LOGGDP)	D(LOGEC)	D(LOGFDI)
CointEq1	0.588737 (0.27700) [2.12539]	-9.015268 (1.85010) [-4.87285]	23.00459 (4.25688) [5.40409]
D(LOGGDP(-1))	-0.266499	2.687205	-15.30043

	(0.46389)	(3.09833)	(7.12893)
	[-0.57449]	[0.86731]	[-2.14625]
D(LOGEC(-1))	0.062180	-0.447992	-0.121170
	(0.03297)	(0.22018)	(0.50661)
	[1.88619]	[-2.03467]	[-0.23918]
D(LOGFDI(-1))	-0.014228	0.088829	-0.026586
	(0.00758)	(0.05064)	(0.11652)
	[-1.87658]	[1.75412]	[-0.22817]
C	-0.045705	0.597316	-2.024599
	(0.02051)	(0.13697)	(0.31515)
	[-2.22874]	[4.36101]	[-6.42429]
R-squared	0.855964	0.967181	0.966520
Adj. R-squared	0.745139	0.944207	0.943083
Sum sq. resids	0.000660	0.029456	0.155943
S.E. equation	0.008126	0.054273	0.124877
F-statistic	1.788670	42.10004	41.24025
Log likelihood	66.37768	32.19618	17.19683
Akaike AIC	-6.486409	-2.688465	-1.021870
Schwarz SC	-6.090688	-2.292744	-0.626149
Mean dependent	0.004009	0.410031	0.203568
S.D. dependent	0.009353	0.229773	0.523435
Determinant resid covariance (dof adj.)		1.32E-09	
Determinant resid covariance		2.27E-10	
Log likelihood		123.2366	
Akaike information criterion		-10.69296	
Schwarz criterion		-9.357400	

From the regressed equations, equation 2 and equation 3 are not significant statistically of the coefficient part of its T values because of multi-colinearity between the variables and its lagged independent variables. The intend of VECM is to predict therefore it does not affect the theory.

$$\text{LOGGDP} = -0.045705 - 0.266499\text{LOGGDP}(-1) + 0.062180\text{LOGEC}(-1) - 0.014228\text{LOGFDI}(-1) \dots\dots\dots(1)$$

[-2.22874] [-0.57449] [1.88619] [-1.87658]

$$\text{LOGEC} = 0.597316 + 2.687205\text{LOGGDP}(-1) - 0.447992\text{LOGEC}(-1) + 0.088829\text{LOGFDI}(-1) \dots\dots\dots(2)$$

[4.36101] [0.86731] [-2.03467] [1.75412]

$$\text{LOGFDI} = -2.024599 - 15.30043\text{LOGGDP}(-1) - 0.121170\text{LOGEC}(-1) - 0.026586\text{LOGFDI}(-1) \dots\dots\dots(3)$$

[-6.42429] [-2.14625] [-0.23918] [-0.22817]

From the equation 1, majority of movement in LOGGDP is affected by its own lag one. E-Commerce and the Foreign Direct Investment have a minimal consequence on the speed of economic growth. E-Commerce has an optimistic force on level of economic growth whereas LOGGDP and LOGFDI are all negative.

Moreover in equation 2, E-Commerce transactions is affected greatly by economic growth (LOGGDP) although Foreign Direct Investment has a small impact and both are positive. The lag one of its own is inverse and having inverse relationship. The expansion of E-Commerce will attract and stimulate extra Foreign Direct Investment into the nation. Nevertheless the development will stimulate the demands for IT Infrastructure, IT logistics, establishment of jobs for IT professional etc thereby promoting massive economic growth. Government effort currently in pushing up the development in IT infrastructure is encouraging because it will help

boost the speed of economic growth. However, all the determinants in the equation 3 are negative and are having inverse relationship with LOGFDI. LOGGDP is impacting heavily on LOGFDI with its own lag one having the weakest link.

Granger Causality Test

TABLE 5: GRANGER CAUSALITY TEST AMONG LOG(GDP), LOG(EC) AND LOG(FDI)

Null Hypothesis:	Obs	F-Statistic	Prob.
LOGFDI does not Granger Cause LOGGDP	20	4.83591	0.0420
LOGGDP does not Granger Cause LOGFDI		20.7556	0.0003
LOGEC does not Granger Cause LOGGDP	20	5.65493	0.0294
LOGGDP does not Granger Cause LOGEC		18.7531	0.0005
LOGEC does not Granger Cause LOGFDI	20	4.19054	0.0564
LOGFDI does not Granger Cause LOGEC		25.5230	0.0001

From the table 5, it is evident that the force of the GDP and the FDI are bidirectional, meaning changes in any of the factors will affect the other and was statistically significant. Also the E-Commerce and the GDP have bidirectional relationship was statistically significant. However FDI granger cause E-Commerce but E-Commerce do not granger cause FDI. In the long-run period economic growth granger causes Foreign Direct Investment. It also granger causes E-Commerce at the equal time. The E-Commerce and FDI granger cause Economic growth. That is the expansion of E-Commerce and the FDI will bring about economic growth. Moreover receipts of FDI will impact positively on E-Commerce transaction overtime but the progress of E-Commerce does not have a bearing on the FDI.

TABLE 6: VARIANCE DECOMPOSITION OF GDP

Period	S.E.	LOGGDP	LOGEC	LOGFDI
1	0.008126	100.0000	0.000000	0.000000
2	0.012804	93.68467	5.859416	0.455914
3	0.020336	88.28812	9.810913	1.900963
4	0.025937	87.39888	10.10526	2.495862
5	0.029604	88.88239	8.393139	2.724474
6	0.032033	89.42702	7.622440	2.950542
7	0.033185	89.24990	7.517202	3.232903
8	0.033804	89.41723	7.253041	3.329733
9	0.034119	89.51712	7.161064	3.321817
10	0.034372	89.61690	7.060001	3.323103

The variance decomposition method for a phase of 10 months ahead, accessible in Table 6 above indicates that the Ghanaian economic expansion is mainly affected by E-Commerce. The movement of E-Commerce transactions impacted on the changing of LOGGDP growth, it started increasing from 5.85% and reaches its highest point of 10.1% in the fourth month but gradually fluctuated and end the period with 7.06%. The influence of FDI started gradually from 0.45% to steady growth to 3.32% during the tenth month. There is consistency with the results from the regression equation and other studies. (Huirong 2014)

In this section please present the results including tables, figures, numbers and graphs (if any). Font Size 12, Times New Roman, single spaced. All the subheadings in this section should be in font size 12 Bold, Times New Roman, single spaced. The first letter of each word in subheading should be capital. For tables please use font size 10. Tables/graphs or figures should be named as Table 1/ Figure 1/ Graph 1 and be given in center of the page.

CONCLUSIONS

The study has used annual data from 1995 to 2015 to look at the effect of E-Commerce, Foreign Direct Investment on the speed of economic expansion in Ghana. Time-series method was adopted including; the long-run association between E-Commerce, FDI and the speed of economic growth essentials through co integration test, granger causality check among the variables, and inference of the long period and short period elasticity of the Ghanaian speed of economic expansion in response to deviation in E-Commerce and FDI. The co integration examination reveals the reality of long period connection between E-Commerce, FDI and the speed of economic growth. The empirical results hint that the model is co integrated and at least one co integration vector exists among them. The variables: the GDP & the FDI and the GDP & E-Commerce are bidirectional that changes in any of them causes the other to change. That means the government must sure that policies to improve economic growth must target E-Commerce and FDI growth. But FDI and E-Commerce are unidirectional and changes in FDI affect E-Commerce but changes in E-Commerce do not affect the FDI. The one directional causality suggests that policies initiated towards FDI provide important information for predicting E-commerce in Ghana.

The dynamic relationship between E-Commerce, FDI and the speed of Economic expansion, are: the development of FDI not only led to the extension of E-Commerce, it also successfully drags the next chapter of economic growth. The spreading out of E-Commerce and FDI together make Ghana's next stage of economic growth increase. Ghana's economic growth moreover led to the next chapter of the intensification of E-Commerce and the FDI.

The motivation of the present practice of building our E-Commerce is encouraging and regulating the extension of E-Commerce market by Bank of Ghana, expanding IT infrastructure through the country by government, unearthing innovations of associated information - technology and reducing taxes to draw FDI inflows can successfully stimulate economic growth, enhancing the establishment of new employment opportunities related to E-Commerce environment.

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