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Financial Sector Deepening and Economic Growth in Ghana

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Abstract

The purpose of this paper is to examine the effects of Financial Sector Development on Economic Growth in Ghana using the Johansen Co-integration analysis. The paper examines empirically the causal link between financial sector development and economic growth in Ghana. The Johansen Co-integration techniques within a bi-variate vector auto-regressive framework were used for the regression. Using a quarterly time series set of data on Ghana over a ten year period (2000 – 2009), the result of the study shows that, there is a statistically significant positive relationship between the Financial Sector Development and Economic Growth in Ghana. This outcome is in line with the results found for most of the literature reviewed. It is recommended that Government should encourage competition in the financial sector and micro finance development as these will improve and increase outreach and access to credit at a lower cost. This will boost private sector development and investments which is the engine of growth and development. This study will help policy makers in decision making as well as serve as a source of reference for further studies. Further studies are recommended to increase the frontiers of this study. Further research on the role of financial sector developments – following Hasan et al. (2006) – is warranted in order to gain a more conclusive understanding of the finance-growth nexus in a transitional country like Ghana.

Keywords: Financial liberalization Financial market Financial instruments Economic growth Johansen co-integration Unit roots

1.1 Background Information

A diversified economy, a stable political environment, consistent economic growth and a well developed financial system have earned Ghana a reputation for ease of doing business, thereby attracting significant foreign direct investment (FDI) inflows, of which Ghana is now one of the top recipients in Sub-Saharan Africa. (African Development Banks' report 2009). Financial sector can be developed by four different ways, by improving efficiency of the financial sector, by increasing range of financial sector, by improving regulation of the financial sector and by increased accesses of more of the population to the financial services (Mohan 2006).

As with most developing countries that have pursued economic and structural reforms, Ghana has undergone a process of financial sector restructuring and transformation as an integral part of a comprehensive financial sector liberalization programme. The financial system that emerged after the reforms is relatively diversified in the range of

services and increasingly offers innovative new products. While small- and medium sized private enterprises depend extensively on self-financed capital investments, the economy is dominated primarily by bank-intermediated debt finance. The next stage and the thrust of financial market policy was therefore the development of a vibrant capital market as a vehicle for raising funds to support large amounts of equity finance and investment. The reforms, liberalizing interest rates and bank credit by government, transformed the financial sector from a regime characterized by controls to a market-based one. The central bank also shifted gradually from a system of direct monetary controls to an indirect system that utilized market-based policy instruments. As part of the process, the Bank of Ghana rationalized the minimum reserve requirements for banks, introduced new financial instruments, and opened market operations for liquidity management. These policies were complemented with an improvement in the soundness of the banking system through a proper regulatory framework, the strengthening of bank supervision and an upgrade in the efficiency and profitability of banks, including replacement of their non-performing assets (Quartey 1997). As a result of the long term structural improvements in the macroeconomic environment, bank credit to the private sector has increased significantly and, with the introduction of a new banking law in 2004, competition among financial institutions has soared. The Bank of Ghana's supervisory powers remain nevertheless strong, thus enabling it to monitor systemic risks.

1.2 Statement of the problem

The fragile nature of the African financial sector (especially in countries in sub-Saharan Africa) cannot be separated from the still fragile state of most of their economies. The depressing economic performance of the region has been widely explained by a number of elements such as famine, drought and civil war, and by the fact that agriculture is the principal economic activity; the region only contributed about 2% of global trade in 2003 (Quartey 2006). Nevertheless, it is also recognised that there are other internal explanations for this, such as the dysfunctional nature of financial markets and institutions. Investments remain low in this region, limiting efforts to diversify economic structures and boost growth.

When compared to other developing countries in South Asia, Latin America and East Asia, the financial systems of sub-Saharan Africa show some distinctive features. In most countries of the region, the financial sectors still concentrate mainly on the banking sector. Financial sectors are thin, and experience difficulty in mobilising domestic savings and attracting foreign private capital. In most sub-Saharan African countries, financial sectors are mostly uncompetitive, and credit allocation is often subject to government intervention. However, most economists argue that growth depends on financial sector development. The relationship between financial sector development and economic growth in Ghana will therefore have to be empirically determined.

The general objective of the study is to look at development in the financial sector and its implications on the economic growth in Ghana over a ten (10) year period. The specific objectives of the study are as follows.

- To examine the effect of financial sector development on economic growth using the Co-Integration analysis.
- To find out the relationship that exists between financial sector development and economic growth in a country

2.1 Theoretical Framework

Financial development is usually defined as a process that marks improvement in quantity, quality, and efficiency of financial intermediary services. This process involves the interaction of many activities and institutions and possibly is associated with economic growth. There is an agreement among economists that financial development stimulates economic growth. In theory, financial development creates conducive environment for growth through two main forms:

1. A supply leading (financial development spurs growth) or
2. A demand following (growth generates demand for financial products) channel.

A lot of empirical research supports the view that development of the financial system contributes to economic growth (Rajan and Zingales, 2003). Empirical facts consistently emphasize the connection between finance and growth, though the issue of direction of causality is sometimes more complicated to establish. At the cross country level, evidence points to the fact that various measures of financial development (including assets of the financial intermediaries, liquid liabilities of financial institutions, domestic credit to private sector, stock and bond market capitalization) are related to economic growth strongly and positively (King and Levine, 1993 and Levine and Zervos, 1998). An idea, whose pioneer made by Edward S.Shaw (1973), explains the changes in system of finance with a term *financial deepening*. According to this idea, when financial system has achieved a specific depth, credits and deposits maturity would become equal.

In addition, the meaning of financial deepening in literature reflects the share of money supply in GDP. The most classic and practical indicator related to financial deepening is the ratio of *M2/GDP* which means the share of M1 + all time-related deposits to GDP in a certain year (Öçal and Çolak, 1999). The Keynesian and the structuralists views support that a country must satisfy financial liberalization with applying financial reforms actively and especially in developing countries financial growth and economic development are always possible with financial deepening (Mohan, 2006).

The Keynesian theory/view of financial deepening asserts that financial deepening occurs due to an expansion in government expenditure. In order to reach full employment, the government should inject money into the economy by increasing government expenditure. An increase in government expenditure increases aggregate demand and income, thereby raising demand for money (Dornbusch and Fischer 1978)

According to Shaw (1974) financial deepening is a term used often by economic development experts. It refers to the increased provision of financial services with a wider choice of services geared to all levels of society. It also refers to the macro effects of financial deepening on the larger economy. Again financial deepening also refers to an increased ratio of money supply to GDP or some price index. It refers to liquid money. A fully liberalized domestic financial system is characterized by lack of controls on lending and borrowing interest rates and certainly, by the lack of credit controls, that is, no subsidies to certain sectors or certain credit allocations. Also, deposits in foreign currencies are permitted. In a fully liberalized stock market, foreign investors are allowed to hold domestic equity without restrictions and capital, dividends and interest can be repatriated freely within two years of the initial investment. According to Kaminsky and Schmukler (2003), full financial liberalization occurs when at least two out of three sectors are fully liberalized and the third one is partially liberalized. A country is called as partially liberalized when at least two sectors are partially liberalized. This way of defining financial liberalization follows the

experience of countries, both developed and developing, since the early 1970s provide indices that help to shape the pattern of financial liberalization for both developed and developing countries (Kaminsky and Schmukler 2003). Indicators of financial deepening differ in economies and between the countries. It is also possible that, different financial markets have different levels of financial deepening. For example, the countries that have efficient financial systems have higher financial deepening ratios. The share of assets in GNP of developed countries financial markets is greater than the developing countries. The level of financial deepening depends on the ratio of total savings increase in a country. As a result of this increase in total savings in the country, financial savings will increase and the savings, which has been made as physical assets with low return, will be converted to financial assets with higher return. Moreover, funds will be transferred from risky and unorganized money markets to organized markets. The association between financial development and economic growth is not a new discovery. According to economy literature, there are several different opinions that financial system affects economic growth. Although Bagehot (1873), Schumpeter (1911) and Gurley-Shaw (1955) set these relations into action, Davis (1965) and Sylla (1969) added empirical findings to their opinions concerning financial sector development and economic growth.

Patric (1966) identifies two possible causal relationships between financial development and economic growth. The first is called *demand following* view which mentions the demand for financial services as dependent upon the growth of real output and the commercialization and modernization of agriculture and other subsistence sectors. Thus, the creation of modern financial institutions, their financial assets and liabilities and related financial services are a response to the demand for these services by investors and savers in the real economy. On this view, the more rapid growth of real national income, the greater will be the demand by enterprises for external funds (the savings of others) and therefore financial intermediation, since in most situations firms will be less able to finance expansion from internally generated depreciation allowance and retained profits. For the same reason, with a given aggregate growth rate, the greater the variance in the growth rates among different sectors or industries, the greater will be the need for financial intermediation to transfer saving to fast-growing industries from slow-growing industries and from individuals. The financial system can thus support and sustain the leading sectors in the process of growth. In this case, an expansion of the financial system is induced because of real economic growth.

The second causal relationship between financial development and economic growth is termed *supply leading* by Patrick (1966). *Supply leading* has two functions, which are transferring resources from the traditional low growth sector to the modern high-growth sector, promoting, and stimulating an entrepreneurial response in these modern sectors. This implies that the creation of financial institutions and their services occurs in advance of demand for them. Thus, the availability of financial services stimulates the demand for these services by the entrepreneurs in the modern, growth-inducing sectors.

The emergence of the so-called new theories of endogenous economic growth has given a new impetus to the relationship between growth and financial development as these models postulate that savings behaviours directly influences not only equilibrium income levels but also growth rates. Thus, financial markets can have a strong impact on real economic activity. Indeed, Hermes (1994) argues that financial liberalization theory and new growth theories assume that financial developments lead to economic growth. On the other hand, Murinde and Eng (1994), Luintel and Khan (1999) argue that a member of endogenous growth models show a two-way relationship between financial development and economic growth (Kar and Pentecost, 2000).

2.2 Empirical Studies

There are a number of empirical studies devoted about the causal relationship that exist between the financial sector development and economic growth (Levine1997, Thiel 2001). According to Goldsmith (1969) financial sector development speeds up economic growth. However, the measure and indicator (deposits/GDP) he employed for financial sector development was very simplified and the direction of the causality was not assessed. King and Levine (1993) found a very powerful relationship (positive relationship) between each of the financial development indicators with economic growth. Levine and Zervos (1996, 1998) also observed that stock market liquidity and bank development are strongly correlated with economic growth. Moreover, the indicators of the financial sector development and thus the research causality as in the work of Levine and Zervos were strongly criticized by Rajan and Zingales (1998). They debated, that both the growth of financial sector and economic growth can be driven by a common variable such as the rate of savings.

In recent years, most studies have employed the time-series modeling framework. Results coming from these studies are not so undisputable about the role of financial sector development in economic growth. Arestis and Demetriades (1997) found out that the long run causality between financial sector and economic growth may vary across countries. Shan, Morris and Sun (2001) found familiar evidence when using causality procedure. Rousseau and Wachtel (1998) investigated data from five OECD countries at the same time of speedy industrialization (1871 - 1929). They found very strong evidence of one-way causality from finance to growth. On the other hand, Neusser and Kugler (1998) studied OECD countries during 1960 – 1993 and could not find strong evidence that development in financial sector could affect economic growth. Beck, Levine and Laoyza (2000) established in their dynamic panel analysis that bank exert a strong causal impact on economic growth. Also Leahy et al. (2001) identified a positive and generally significant relationship between financial development and the level of investment.

3.1 Theoretical Model

3.1.1 Models used for the first step:

a. Unit Root Test

Most of the time series variables are non-stationary and using non-stationary variables in the models might lead to spurious regressions (Granger 1969). The first or second differenced terms of most variables will usually be stationary (Ramanathan 1992). Thus, the first step in this exercise involves performing Dickey-Fuller (DF) Unit Root Test and subsequently based on the results, we might also conduct Augmented Dickey-Fuller (ADF) test.

b. Dickey Fuller (DF) Test:

Let the variables for the test be Yt, the DF Unit Root Test are based on the following three regression forms:

i. Without Constant and Trend:

$$\Delta Y_t = \phi Y_{t-1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

ii. With Constant

$$\Delta Y_t = \alpha + \phi Y_{t-1} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

iii. With Constant and Trend

$$\Delta Y_t = \alpha + \beta_t + \phi Y_{t-1} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Testing Hypothesis for Unit Root:

H_0: = 0 (the series have a Unit Root)

H_1: = 1 (the series have a no Unit Root)

The Decision rule:

a. If ***t*** stat values > ADF critical value, = we fail to reject null hypothesis, i.e., unit root exists.

b. If ***t*** stat values < ADF critical value, = we fail to accept null hypothesis, i.e., unit root does not exist.

c. Augmented Dickey Fuller (ADF) Test:

Sometimes, even after using the above mentioned three different propositions we may fail to attain the expected results; it subsequently leads to more confusion to determine whether the series is stationary or otherwise. In these circumstances, we use ADF method. This method takes the lag transformation into consideration. This can be specified as follows:

$$\Delta Y_t = \alpha + \beta_t + \varphi Y_{t-1} + \sum \delta_i \Delta Y_{t-1} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

3.1.2 Models used for the second step:

Econometric Model for Estimating Long Run Linear Relationship:

We use Johansen Co-integration econometric model to examine the relationship between financial sector development and economic growth. The econometric model to be estimated is as follows:

$$GDP_t = \lambda M2/GDP_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

Where,

GDP = Gross Domestic Product in time t,

M2/GDP = Financial Depeening,

λ = Constant parameter,

μ_t = Stochastic/error term

3.1.3 Models used for the third Step:

a. Testing for Stationarity of Residuals:

As specified above, in the final stage, we look for the stationarity of residuals of the co-integrated model in the second step.

$$\Delta \psi_t = \beta \psi_{t-1} + \sum^{p} \Delta \psi_{t-1} + \omega_t \ldots\ldots\ldots\ldots\ldots\ldots (6)$$

Where,

Ψ t-1 = Residuals in *t-1* year

Δ = difference order

ϖt = Error term

p = lag value;

β = hypothesis variable parameters;

4.1 Analysis and Presentation of Data

The first step of the study is determining the relationship between financial deepening and economic growth whether the series are stationary or not. It should be noted that, in a model, for a correct evaluation, time series should be separated from all effects and the series should be stationary. Thus, percentage of time series were taken and Augmented Dickey Fuller Test was used for testing stationarity. Then, co-integration test was used to examine the long-term relationship between financial deepening and economic growth. If for instance there is a time dependent lagged relationship between the two variables, then we can talk about its direction. Thus the Granger Causality test will be employed since it is one of the tests to define this relationship statistically.

4.1.1 Testing for Stationarity (Unit Root Test: Augmented Dickey Fuller)

Null Hypothesis: GDP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.823084	0.0057
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GDP)
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	-0.564472	0.147648	-3.823084	0.0005
C	2.541727	0.728780	3.487647	0.0013

R-squared	0.283168	Mean dependent var	0.277179
Adjusted R-squared	0.263794	S.D. dependent var	3.090160

S.E. of regression	2.651433	Akaike info criterion	4.837998
Sum squared resid	260.1137	Schwarz criterion	4.923309
Log likelihood	-92.34097	Hannan-Quinn criter.	4.868607
F-statistic	14.61597	Durbin-Watson stat	2.170491
Prob(F-statistic)	0.000489		

Table 1: Test for stationarity of GDP

From table 1, after the test is performed, GDP is stationary since it has a probability of 0.0005 which is highly significant at 95% confidence interval. This implies that there is no need for differencing to be done and it goes a long way of avoiding the risk of losing the long-term relationship possibility while taking differences to make series stationary.

Table 2: Test for stationarity of M2/GDP

Null Hypothesis: M2_GDP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.982447	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(M2_GDP)
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
M2_GDP(-1)	-0.983518	0.164401	-5.982447	0.0000
C	17.27164	9.268954	1.863386	0.0704

R-squared	0.491686	Mean dependent var	-0.028431
Adjusted R-squared	0.477948	S.D. dependent var	76.11478
S.E. of regression	54.99534	Akaike info criterion	10.90229
Sum squared resid	111906.1	Schwarz criterion	10.98761
Log likelihood	-210.5947	Hannan-Quinn criter.	10.93290
F-statistic	35.78967	Durbin-Watson stat	1.999111

Prob(F-statistic)	0.000001

From table 2, M2/GDP is stationary since it has a probability of 0.0000 which is highly significant at 95% confidence interval. This implies that there is no need for differencing to be taken and it goes a long way of avoiding the risk of losing the long-term relationship possibility while taking differences to make series stationary.

4.2 Vector Autoregression Estimates

Vector Autoregression Estimates

	GDP	M2_GDP
GDP(-1)	0.333339	-2.702589
	(0.17693)	(3.77330)
	[1.88401]	[-0.71624]
GDP(-2)	0.289192	-1.242868
	(0.17287)	(3.68664)
	[1.67291]	[-0.33713]
M2_GDP(-1)	-0.001792	-0.031616
	(0.00840)	(0.17921)
	[-0.21327]	[-0.17642]
M2_GDP(-2)	0.003169	-0.056210
	(0.00835)	(0.17797)
	[0.37974]	[-0.31583]
C	1.799155	35.56928
	(1.00040)	(21.3350)
	[1.79843]	[1.66718]
R-squared	0.249813	0.027367
Adj. R-squared	0.158881	-0.090527
Sum sq. resids	238.9290	108668.8
S.E. equation	2.690776	57.38461
F-statistic	2.747253	0.232135
Log likelihood	-88.85269	-205.1307
Akaike AIC	4.939615	11.05951
Schwarz SC	5.155087	11.27498
Mean dependent	4.332368	17.93798
S.D. dependent	2.933923	54.95120

Determinant resid covariance (dof adj.)	22339.54
Determinant resid covariance	16847.48
Log likelihood	-292.7465
Akaike information criterion	15.93403
Schwarz criterion	16.36497

Table 3: Vector Autoregression Estimates

4.3 Lag Structure

VAR Lag Exclusion Wald Tests

Chi-squared test statistics for lag exclusion:
Numbers in [ ] are p-values

	GDP	M2_GDP	Joint
Lag 1	4.086503	0.513140	4.181313
	[0.129607]	[0.773701]	[0.382024]
Lag 2	2.798796	0.175118	2.869994
	[0.246745]	[0.916165]	[0.579812]
df	2	2	4

VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-289.0275	NA*	23283.18*	15.73121*	15.81829*	15.76191*
1	-285.2047	7.025532	23523.53	15.74080	16.00203	15.83289
2	-284.3461	1.485198	27950.03	15.91060	16.34598	16.06409
3	-283.4505	1.452281	33252.37	16.07841	16.68794	16.29330

* 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

Table 4: Lag Structure of Variables

The tests above show the lag structure of the variables. The first part of the table indicates the variable Lag Exclusion Wald Tests and the second part of the table shows the variable Lag Order Selection Criteria indicating the lag length of the variable. The criterion adopted here is the Akaike information criterion. At 5% confidence level, at zero lag (i.e. where there is no lag), the Akaike information criterion reports 15.73121 which indicates that at zero lag (i.e. where there is no lag), the variables are good in determining each other and there is no need to lag the variable by a period, two or three.

4.4 Johansen Co-integration Test Summary

Series: GDP M2_GDP
Lags interval: 1 to 2

Selected (0.05 level*) Number of Cointegrating Relations by Model

Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept No Trend	Intercept No Trend	Intercept No Trend	Intercept Trend	Intercept Trend
Trace	0	0	2	1	2
Max-Eig	1	0	0	1	2

*Critical values based on MacKinnon-Haug-Michelis (1999)

Information Criteria by Rank and Model

Data Trend:	None	None	Linear	Linear	Quadratic
Rank or No. of CEs	No Intercept No Trend	Intercept No Trend	Intercept No Trend	Intercept Trend	Intercept Trend
	Log Likelihood by Rank (rows) and Model (columns)				
0	-293.3884	-293.3884	-292.9026	-292.9026	-292.8538
1	-287.6199	-286.8182	-286.3394	-282.9993	-282.9717
2	-287.6157	-283.4505	-283.4505	-277.7448	-277.7448

Akaike

	Information Criteria by Rank (rows) and Model (columns)				
0	16.29126	16.29126	16.37311	16.37311	16.47859
1	16.19567	16.20639	16.23456	16.10807	16.16063
2	16.41166	16.29462	16.29462	16.09431*	16.09431

	Schwarz Criteria by Rank (rows) and Model (columns)				
0	16.63957*	16.63957*	16.80850	16.80850	17.00105
1	16.71813	16.77239	16.84410	16.76114	16.85724
2	17.10827	17.07831	17.07831	16.96508	16.96508

Table 5: Johansen Co-integration Test Summary

The table above indicates the Co-integration summary. Here, the criterion(s) adopted is the Akaike Information Criterion or the Schwarz Criterion. But it should be noted that the Akaike Information Criterion is preferred to the Schwarz Criterion. From the above, at the 95% confidence interval, there is a co-integration between the variables where there is a linear trend at the second lag strength.

4.5 Co-integration Test

Trend assumption: No deterministic trend (restricted constant)
Series: GDP M2_GDP
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.298929	19.87571	20.26184	0.0564
At most 1	0.166428	6.735287	9.164546	0.1411

Trace test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.298929	13.14042	15.89210	0.1291
At most 1	0.166428	6.735287	9.164546	0.1411

Max-eigenvalue test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

GDP	M2_GDP	C
-0.143580	-0.033931	1.240031
0.445391	0.002841	-2.240801

Unrestricted Adjustment Coefficients (alpha):

D(GDP)	-0.360464	-1.050045
D(M2_GDP)	34.97803	1.254161

1 Cointegrating Equation(s): Log likelihood -286.8182

Normalized cointegrating coefficients (standard error in parentheses)

GDP	M2_GDP	C
1.000000	0.236324	-8.636498
	(0.05946)	(2.18928)

Adjustment coefficients (standard error in parentheses)

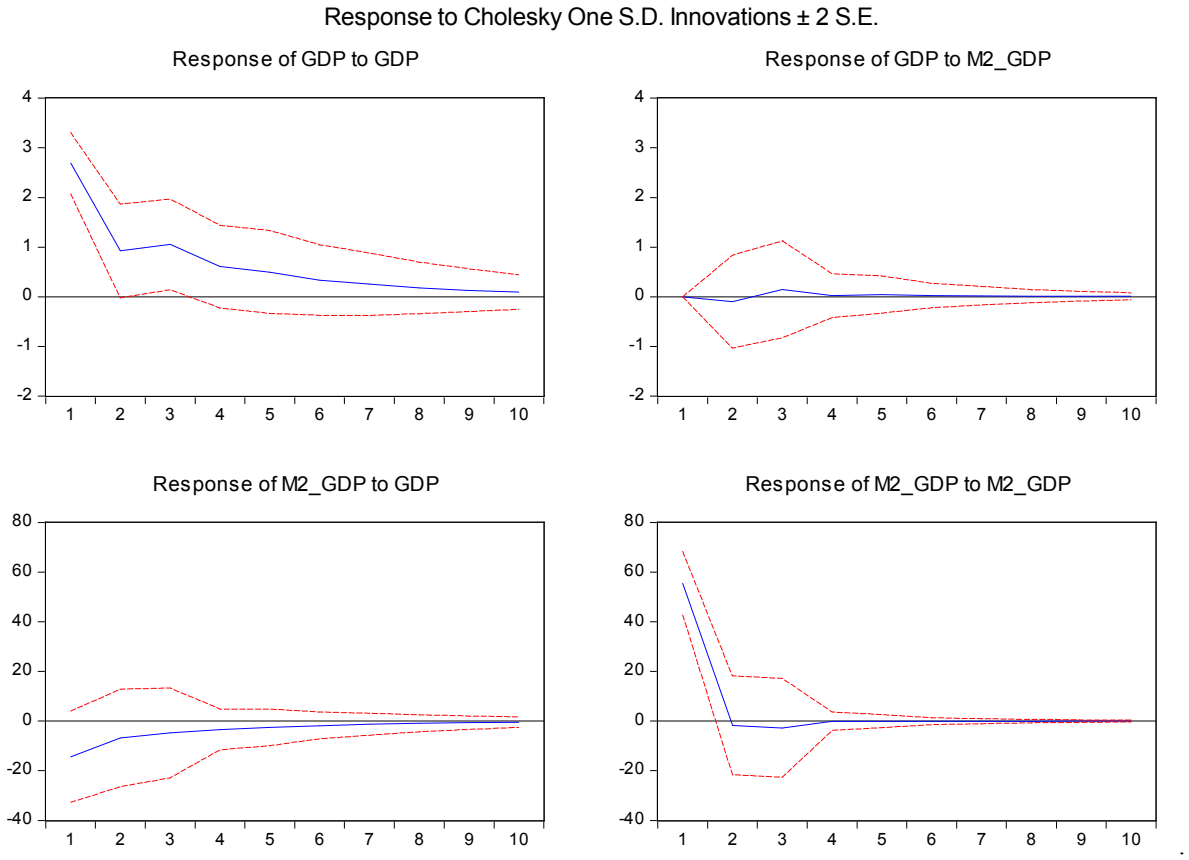
D(GDP)	0.051756
	(0.06682)
D(M2_GDP)	-5.022157
	(1.36184)

Table 6: Co-integration Test

Using the Normalized co-integrating coefficients, the results of the regression indicate that, there is a positive correlation or relationship between financial deepening and economic growth. That is, a 1% increase in financial

deepening (M2/GDP) results in 0.236324% increases in economic growth (GDP). This implies that, financial sector development is statistically significant and positive in explaining economic growth in Ghana.

Figure 1: Impulse Response



The figure above represents the responsiveness of a shock in a variable to the other as well as to itself. An impulse response function traces the effect of a one-time shock to one of the innovations on current and future values of the endogenous variables. From the figures above, as the year goes by, the responsiveness of variables becomes favourable. This is indicated by the broken lines that move closer to the zero line. This means that a variable say economic growth becomes better off with a shock in a variable say financial deepening.

5. Conclusion

The Financial Sector has an essential role in economies most especially in developing economies. Developing the financial sector means improving the functions, structures, and the human resource, to ensure efficient delivery of services to the private sector. Policymakers should design the policies which will promote the financial and capital markets, remove the obstacles that impede their growth and strengthen the health and competitiveness of the banking system. They must introduce measures that increase accountability and autonomy of financial institutions as well as restructuring and recapitalization of financial institutions. The Government must also ensure efficiency in its regulation and supervision of all financial institutions in allowing more private banks and non-bank financial

institutions to broaden their financial market to accelerate financial development and improve the financial structure that leads to increase economic growth of Ghana. The development of the micro finance sector is also very necessary so as to make credit accessible to micro entrepreneurs who are often left out in the formal credit markets. These will boost private sector development and investments which is the engine of growth and development.

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